ILLINOIS
Dental Journal

THIS MONTH

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Volume 13 Number 1

January 1944

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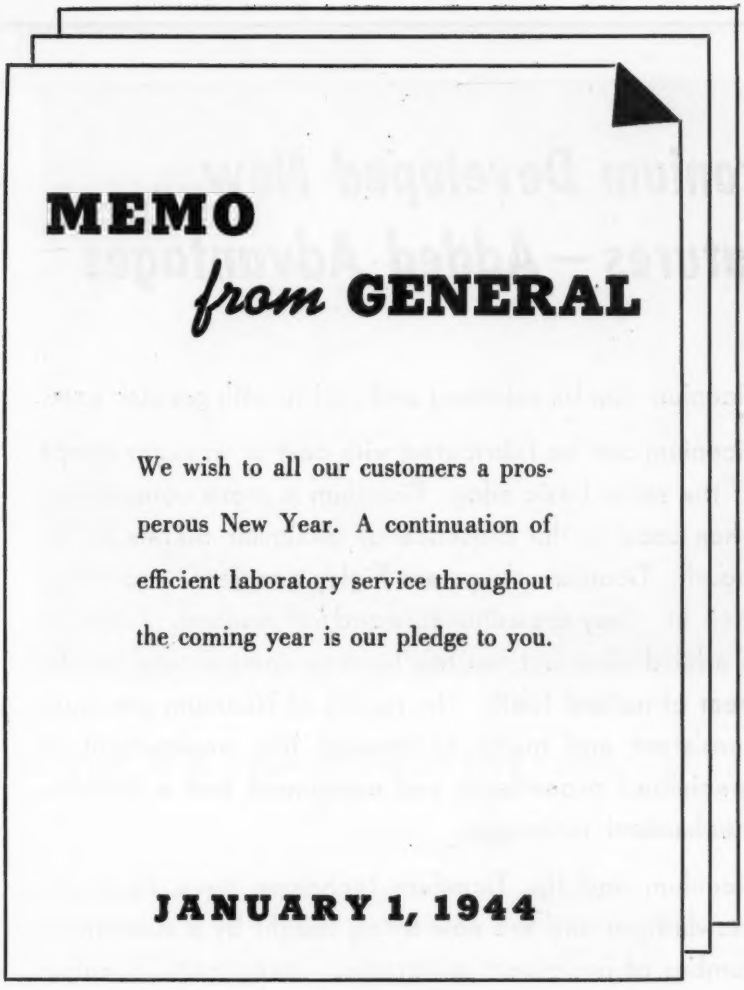
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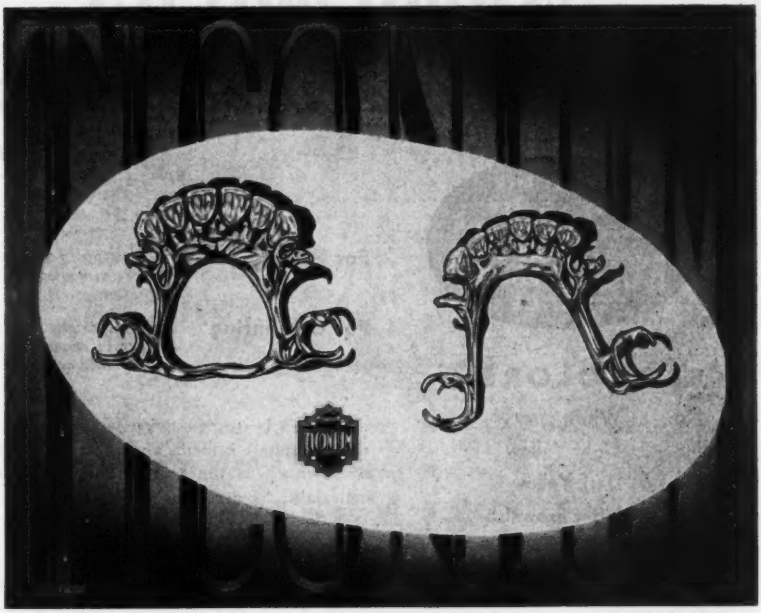

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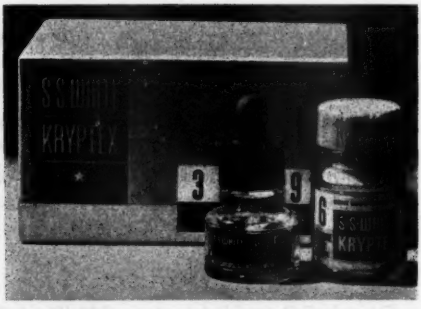

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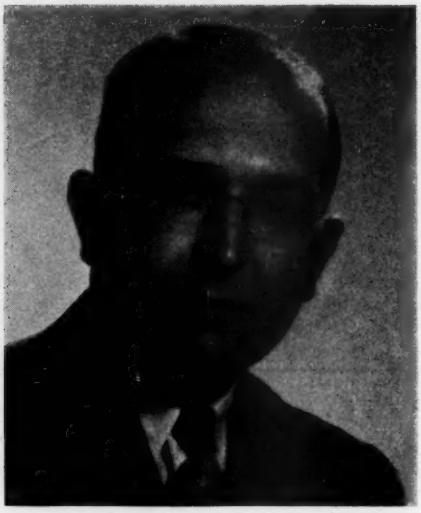
Owned, and Published Monthly, by the Illinois State Dental Society

Wm. P. Schoen, Jr., Editor; Maynard K. Hine, William G. Skillen, Warren Willman, Associate Editors; James H. Keith, Contributing Editor. Publication Committee: L. H. Jacob, chairman, Wm. P. Schoen, Jr., Edward J. Krejci, B. Placek. Business Staff: B. Placek, Business Manager; Louise B. Redeker, Advertising Representative.

Editorial and Advertising Office, 6355 Broadway Chicago, Illinois. Telephone, AMBassador 3252.

Unless explicitly stated to the contrary all opinions expressed in articles are those of the writer and not those of the Illinois State Dental Society. The subscription price is two dollars annually. Entered as second class matter at the post office of LaGrange, Illinois under the Act of March 3, 1879.



ROBERT J. POLLOCK

Robert J. Pollock, of Chicago, is one of the three new members elected to serve on the Executive Council of the state society from the Chicago District.

Dr. Pollock was graduated from the Chicago College of Dental Surgery, School of Dentistry, Loyola University in 1929 and became a member of the state society through the Chicago component in 1930.

He has been chairman of the Board of Censors, of the Necrology Committee and of a special publicity committee in the state society. Dr. Pollock has also been a member of many committees in the Chicago Dental Society and at present is vice-chairman of the Membership Committee of that organization. He has held all the offices in the West Suburban Branch of the Chicago Dental Society.

ILLINOIS
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VOLUME 13 JANUARY, 1944 NUMBER 1

Food and the War*‡

By PAUL R. CANNON, M.D.†

That food is the most important weapon for winning wars is clearly shown by Dr. Cannon in the following article. The magnitude of the problems that face the United Nations now and in the postwar years in rehabilitating the world is discussed with statistics and excerpts of reports as a factual basis for the conclusions drawn.

Because food is our only source of energy, it alone can furnish the strength and endurance necessary for the winning of a long war. That the nations in the war recognized this fact is evidenced by their prewar efforts to accumulate food surpluses and their present emphasis upon sea blockade and bombings. The wartime leaders know, also, that when total war becomes a conflict of attrition, ill-fed participants cannot long withstand the undermining influences of hunger and disease. In all the lengthy sieges of the past the combination of hunger, famine and disease has contributed to the final capitulation. It affected the outcome of the siege of Paris in 1870-71 and the siege of Germany in 1917-18. It may play the determining rôle, also, in the coming siege of Hitler's European Fortress; because, when people are undergoing severe malnutrition neither slogans, propaganda nor the fanfare of trumpets can induce them to struggle hopelessly against overwhelming odds.

Food is one form of international currency which cannot be devalued by a dictator's pen; there is no such thing as an ersatz calorie. A nation subjected to a growing dearth of many essential foodstuffs is in deadly peril, especially when confronted by opponents who have at their command vast agricultural resources. The effective conduct of a long war requires as a first priority, therefore, a wise provision for an adequate reserve of food; this means sufficient resources of manpower, machinery, building materials, fertilizer, insecticides and transportation as well as detailed knowledge of available food supplies and future dietary needs.

The importance of food in war is best appreciated by looking at the consequences of its lack. The enforced neglect

*Read before the Odontographic Society of Chicago, October 4, 1943.

†Department of Pathology, The University of Chicago.

‡Reprinted from W. H. Taliaferro, Editor, *Medicine and the War*, 1944. By permission of the University of Chicago Press.

in wartime of many civilian industries causes food reserves to shrink. This accelerates the trend toward subsistence living. The downward trend leads first to agricultural degeneration; in the people it leads to physical deterioration, loss of morale and final defeat. In world war I the collapse of the Central Powers was preceded by a breakdown of the food supplies in the course of which the energy levels of the individual German citizen declined. Whereas in prewar Germany the average daily caloric intake per adult male was over 4,500 calories, during 1917-1918 the average rationed diet in many cities yielded less than 1,800 calories.

Food Below Standard

Prof. Neumann lived entirely on rationed foods for seven months; during this time he lost thirty-seven pounds, or almost 25 per cent of his body weight. This tendency to lose weight occurred all over Germany despite the appearance of "black markets." The resulting slow starvation led inexorably to fatigue, lessened industrial efficiency, lowered morale, unrest, riots and, finally, revolution. These effects have always tended to follow periods of prolonged famine. There is every reason to believe that they will do so again. Right now the average food consumption in several European countries is far below normal caloric needs. It has been estimated recently that in Belgium the caloric intake is 35 per cent below standard; in Greece and Poland it is lower still. The estimate for France is 25 per cent, for the Netherlands, 20 per cent, for Italy, 15 per cent and for Norway, 10 per cent. Germany, by "levying" food from her conquered victims has kept her average food ration close to normal standards, but in recent months the Germans, too, have been forced to make severe cuts in the rations to civilians of meats and fats. Furthermore, at times, according to reports, there is not enough food available to fill the rationed requirements. The Reich, also, has an additional burden in the feeding of at least 7,000,000 prisoners of war and war workers from the occupied countries who are being used on German farms and in the factories.

It is apparent, therefore, that in the nutritional planning for wartime needs the energy-values of food must rank high in importance. For moderate physical activity 3,000 calories is generally considered the average daily adult requirement for maintenance of weight and vigor. From this requirement there can be no prolonged reduction; and if there is, the price paid is decreased vigor and, in time, an increased tendency to disease. Indeed in war the usual caloric needs become greater; soldiers eat more than they did in civilian life. Food costs thus tend to rise because of the scarcity induced by the greater food demands of those engaged most actively in war. The loss of farmers to the military services also increases the difficulties of food production. Rationing soon becomes necessary, and with it a corresponding decrease in the overall consumption of food. If less food, on the average, is consumed under these restricted circumstances, it becomes all the more important to improve its quality.

Dietary Prerequisites

In order to evaluate the rôle of food in war one should know the dietary prerequisites for buoyant health. Although a complete answer to this question cannot be given now, it can at least be said that the goal of optimal nutrition is coming into view. Within the past two years the Food and Nutrition Board of the National Research Council has outlined requirements for good nutrition which represents a start at least in the formulation of a national "nutrition yardstick." The dietary standards set up by this board represent the collective judgments of many nutritional experts throughout the world; moreover, these judgments are based on scientific evidence rather than opinion. The standards take into account nutritional needs

as influenced by age, sex and degrees of physical activity and physiological variations induced by pregnancy and lactation; they include, also, both daily caloric needs as well as the needs for protein, calcium, iron and various vitamins; they emphasize both dietary quantity and quality, but particularly quality.

Although these standards comprise only present-day evaluations of the essentials of an optimal diet, they afford the best available guide for the estimation of current dietary inadequacies. Frank Boudreau, M.D., chairman of this Board, recently has pointed out several deficiencies of the average American dietary as measured by the standards of the Board. The low consumption rate with respect to many of the so-called protective foods has been a surprise to Americans who have boasted that we are the best fed people in the world. But recently Black has called attention to "the general lack of vigor and stamina that one finds in many of the inducted soldiers and that one attributes to insufficient food of the right sorts. From the South in particular a considerable fraction of the men give evidence of too little protein in their diets. Under a combination of balanced diets and outdoor training, very many of the men gain weight and muscular strength as well as endurance. The 'toughening' process is frequently as much compounded of good food as of hard work. It would help the progress of the war if the trainees could be properly fed for a few months before being inducted." And if our peacetime dietary levels are so much below those necessary for optimal nutrition, what must they be in the devastated lands of Europe? And what will they be as a consequence of the postwar dislocations?

Wartime Nutrition

It is obvious, of course, that one must expect both quantitative and qualitative curtailment of food output in time of war; but a too prolonged subsistence on a low-calorie diet leads inevitably to undernutrition just as a lack of essential dietary constituents leads to malnutrition. As food supplies become scarce, therefore, the energy-intake first declines, accompanied by a deficiency of accessory protective substances. Let us see how interference with these dietary components may affect nutritional practices in time of war.

Carbohydrates.—The carbohydrates satisfy our main caloric needs, ordinarily furnishing more than half the daily energy-supply. The cereals, particularly wheat and rice, with potatoes, sugar cane and sugar beets supply the starches and sugar needed for the bulk of human energy requirements. In wartime, therefore, the grains assume a vital significance and for a prolonged war a constant supply of them must be ensured. Thus it is obvious why the Germans coveted the Rumanian wheat fields and the Russian Ukraine and why the British ploughed up their beautiful estates. The British now have 50 per cent more land in cultivation (an increase of 6,000,000 acres) than they had before the war. The Japanese, on the other hand, depend upon rice, and normally produce more than 80 per cent of their requirements; furthermore, at the beginning of the war they quickly captured the vast rice fields of French Indo-China, Thailand and Burma, "the largest surplus producers of rice in the world."

U. S. Food Stocks

The United States entered the war with immense stocks of wheat and corn, thanks to two years of bountiful harvests. At the end of 1942 we possessed about twice the amount of wheat ordinarily utilized by us annually. This vast supply, if eaten with milk, eggs, vegetables and dairy products, could ensure us a reasonably adequate diet regardless of other food shortages, particularly if the wheat were milled so as to leave in the flour more of the thiamin, niacin and iron now discarded. We must recognize the obvious fact, however, that ideas which determined our prewar agricultural policies are now entirely obsolete.

Fats and Oils.—The fats and oils contain the largest amount of potential energy of any of the foods, yielding more than twice as many calories per gram as do either carbohydrate or protein. In time of war, therefore, they become increasingly important, particularly to the nations whose dietary customs are based upon a high fat content. For example, the Germans, British and Americans, and in fact, most dwellers in the Western World customarily eat diets containing as high as 30 per cent fat. In contrast, the oriental nations, including Japan, eat much less fat, the Japanese diet ordinarily containing not more than 10 per cent. These differences in dietary habits obviously influence greatly both the preparations for a war and the later conduct of it.

German Efforts

In the prewar days the Germans made a determined effort to secure an ample reserve of fats and oils; they built up a large whaling fleet, they cultivated the oilseed crops (soybeans, poppy, flax, rape and mustard) intensively and they imported vast quantities of fats and oils. But after three years of war the fats situation in Germany has changed materially and it has been estimated "that the total net reduction in fats supplies for the Nazi-occupied European continent probably reaches five billion pounds, or from 30 to 40 per cent of prewar requirements" (Brandt). This decline, moreover, has occurred despite strict rationing, more effective reclamation methods and increased acreages given to oilseeds. Rations of fats, therefore, have been steadily and drastically reduced both in Germany and in the occupied countries.

The Japanese, on the other hand, now enjoy huge surpluses of whale and fish oils, tung oil, copra, palm and soybean oil for which there is no ready market. Furthermore, Japan controls vast quantities of vegetable oils formerly transported to the United States and to Great Britain and once amounting to around two billion pounds yearly. As a consequence there is a serious shortage of vegetable fats and oils for the United Nations. This in the United States for 1943, is estimated at between eight hundred million and one billion pounds, or between 7 and 9 per cent of the 1942 requirements. Moreover, despite these immense losses the United Nations must send from five hundred to seven hundred million pounds of fats to the Russians annually in order to make up their shortage caused by the abandonment of territory to the Germans formerly producing huge quantities of soybeans, linseed, sunflower seed, butter and lard.

Fats as Morale Foods

The fats act not only as fuel-foods, but they contribute to morale both by increasing the palatability of foods and by retarding gastrointestinal motility and the quick return of hunger. Some of the fats also contain fat-soluble vitamins, for example A, D, E and K. Furthermore the oil seeds, after the oil has been expressed from them, afford large supplies of protein-rich meals which are widely used as protein supplements for the production of beef, pork, milk, poultry and eggs. It can thus be seen that the fats play a tremendously important role in war, not only as a source of energy but psychologically as well. Without them energy must be derived largely from the carbohydrates. So long as the fats and carbohydrates are available, however, the tissue-proteins will be spared; but if the caloric intake falls, the bodily reserves of carbohydrate, fat and protein must be drawn upon for energy purposes. And when this happens undernutrition and malnutrition soon depress the energy potentials, thus predisposing to impaired physical efficiency and to a decreased resistance to infectious agents.

Animal Proteins.—Most peoples use animal proteins abundantly, especially meat, fowl, fish, milk, cheese and eggs. But in times of war these products inevitably become scarce, and for various

reasons. This necessitates changed dietary habits and the substitution of grains and vegetables. Diets thus become monotonous; they are not necessarily less nutritious, however, unless there is an actual dearth of dietary substitutes, as seen, for example, in occupied or devastated areas made agriculturally useless either accidentally or by deliberate design. According to a recent report in London by the British Technical Advisory Committee on Agriculture "it is stated that the estimated decline of livestock in enemy-occupied countries as a result of lack of feed-stuffs, requisitioning and slaughter is about 11,000,000 cattle, 3,000,000 horses; 12,000,000 pigs and 11,000,000 sheep . . . milk production has gone down by more than a third and meat production by nearly half."*

Council Report

In anticipation of the enlarging demands for protein in the United States a committee of the Food and Nutrition Board of the National Research Council reported, in August 1942, as follows: "It is apparent that the American people are in no immediate danger of experiencing a deficiency in the protein supply. It is equally evident that should this country be called upon to export a very considerable proportion of its high-protein foods, a protein shortage might occur unless in the meantime appropriate measures are taken to prevent it . . . it should be emphasized, however, that this optimistic outlook is predicated upon the assumption that the 1942 production goals will actually be reached. Crop failures, manpower shortage, machinery shortages, epidemics among livestock, etc. could quickly lead to a marked reduction in our protein supplies and thus create a serious scarcity."

Since then the protein situation in the United States has markedly worsened. Right now, because of current shortages of tankage, soybean meal and fishmeal there is a serious lack of important supplementary protein concentrates essential for the feeding of young livestock. As a matter of fact it will actually take a 25 per cent increase in the estimated supply of feed for livestock on the farms in 1943 to satisfy requirements. The fish supply, including fishmeal, is alarmingly low. This scarcity is due to several causes, among them induction of fishermen into the military services, diversion of boats to military purposes and interference with shipments from South America because of submarine activities. Soybean meal is scarce, despite increased soybean production in 1942, because of machinery and manpower shortages; as a matter of fact, a bottleneck resulted this year because of the doubling of the crop in 1942 with no corresponding provision for an increase of the processing capacity. Tankage is short due to dislocations of the livestock market. The widespread use in animal feeding of these protein supplements is based upon their demonstrated value for the proper nutrition of the growing young; and there is already grave concern as to the possible effects of these shortages upon the growth and thrift of the thousands of young pigs, calves and chicks depended upon for a part of our food supply during the coming months. Furthermore, because of the protein shortage there is a possibility that we may be unable to meet the 1943 goal in egg production, which represents an increase of 8 per cent over the 1942 level. A hen, for effective egg-production requires, according to expert authorities, at least 14 per cent of protein in her daily diet. Inasmuch as the grains average about 10 per cent of protein only, the balance must be made up from other protein supplements or the hen will not lay as many eggs.

Importance of Fisheries

At a recent conference in Washington (Feb. 15, 1943) of the fishing industry, called by the National Research Council, steps were taken to exploit more effectively the great oceanic fisheries, particularly by an increased production of fishing vessels, gear, crews and process-

*Science, March 5, 1943.

ing plants. It is probably too late this year to correct the immediate protein famine, but in time these and other measures should help to eliminate the shortage which is so serious now. One promising development is the more extensive utilization of vegetable proteins from soybeans, peanuts and cottonseed, in view of recent evidence that these proteins contain an adequate assortment of amino acids (particularly lysine) as evidenced by their ability to cause good growth in young rats.

In the average American diet the food constituents most generally deficient are the vitamins and calcium. These are best supplied in milk, green and yellow vegetables, fruits and meats. Such foods are now designated "protective" foods, a proper proportion of which, when added to the daily diet, supply those necessary substances which make food more than a source of energy by contributing to that buoyancy of health which is the ultimate goal of nutritional striving. These are the foods, moreover, which in time of war are likely to become scarce first as famine encroaches upon devastated and heavily rationed areas. With the slaughtering of cattle and the consequent curtailment of milk production, a shortage of calcium and vitamins A and D and riboflavin parallels the decrease in milk consumption. The lack of these protective substances may be highly detrimental in adolescence and pregnancy. Both the rising incidence of rickets and the mounting death rates among the newborn are due, in part, to the impaired production of these protective foods.

Significance of Vitamins

Vitamins.—The vitamins, in time of war, assume particular significance. Most of them occur naturally in foods as (1) substances soluble in fats and oils (vitamins A, D, E and K) or (2) as materials soluble in water (vitamins B and C and other accessory substances). Although it is doubtless true that all of the known water-soluble vitamins are available in natural foods, particularly in liver, yeast, whole grains, meat, vegetables and fruits, etc., difficulties in food distribution in time of war and the too great dependence of so many people upon the highly refined foods lead to a deficiency in their adequate intake.

Thiamin Deficiency Common

A deficiency of thiamin is most common among peoples who consume large quantities of patent white flour and refined sugar and who fail to eat proper amounts of the protective foods. Without an adequate intake of this vitamin, pyruvic acid, an intermediary product of carbohydrate metabolism, tends to accumulate in the tissues of the depleted person. According to Wilder, large numbers of Americans eat a definitely thiamin-deficient diet; it is because of this fact that flour has been "enriched" by the addition of thiamin, niacin and iron to it at the mill. This product is now sold in the form of "enriched bread." Furthermore, the use of "war bread" or "national bread" made from flour less highly milled has left in the flour much of the thiamin and other members of the B complex ordinarily thrown away. This fact is interesting also, because of the idea recently advanced that thiamin might be called the "morale" vitamin which was being removed from the bread of the defeated peoples of Europe in order to break their morale. Actually, except for the fact of absolute lack of food, these peoples are getting a better bread than they had before. But men cannot live by bread alone, and the low-calorie rations probably do more to depress morale than do the deficiencies of vitamins, of calcium or of any other single dietary factor.

The scarcity of ascorbic acid, or vitamin C, is felt severely in Europe at the present time because the supply of citrus fruits is extremely scanty. To offset this lack large quantities of synthetic ascorbic acid have been produced and as a result scurvy thus far has not been a serious problem. Mild scurvy has been reported in Greece, in Poland and in Norway,

and it is said that the Germans have transported ascorbic acid by airplane to their troops in Norway and on the Russian front. Our own troops stationed in the far north are also being supplied with vitamin tablets containing not only ascorbic acid but other vitamins as well. For example, through November 1942 the Agricultural Marketing Administration had bought for the armed forces of the United States more than $9,000,000 worth of vitamin preparations. These facts are of military interest mainly because in the past armies and navies have had important campaigns ruined or marred due to a lack of vitamin C.

Of the fat-soluble vitamins, vitamin D is particularly important in time of war as shown by the increasing incidence of rickets in Europe. Dietary vitamin D is secured mainly from liver, notably fish livers, eggs and, to a slight and variable degree, from milk; under conditions of famine, the only readily available source is from the activation of sterols in the skin by sunlight. The fish oils become more difficult to obtain because of the economic dislocations of war. Rickets, therefore, occurs with increasing frequency among the children. In fact, a form of rickets now being reported occurs in the foetus as a result of the lack of adequate calcium, phosphorus and vitamin D intake in the mother, who in turn, manifests signs of osteomalacia. The effects of these vitamin inadequacies will be seen later in the bow-legged children and in the contracted pelves of the potential mothers in the zones of war.

Effects on Pregnancy

Pregnancy and Lactation.—One of the most disastrous consequences of war, in fact, falls upon pregnant women because in pregnancy all nutritional needs become intensified. This is especially true in total war where normal living becomes impossible and where severe food rationing threatens the health both of the mother and the infant. The infant frequently is alluded to as a kind of parasite which during gestation as well as after birth abstracts nourishment from the mother. In normal times this excessive nutritional drain upon the mother can be allowed for, but in times of food shortage undernutrition of the mother may lead to such malnutritional manifestations as anemia, poor milk production, fatigue, increased susceptibility to infection, miscarriages, low birth weights of the new-born, and at times, nutritional edema.

Need Added Food

A pregnant woman requires an added supply of food for the following reasons: basal metabolism increases due to the higher metabolic activity of the foetal tissues; the mother, therefore, needs both more and better food, particularly food rich in proteins, calcium and vitamins. It is generally estimated that the protein needs of a pregnant woman are increased at least 50 per cent; furthermore, these proteins should come from meat, eggs and dairy products in order to provide a wide assortment of amino acids for utilization by the growing foetus. Calcium needs rise, also, both for the mother and the child, as illustrated by the old saying "for every child a tooth"; and to ensure its adequate utilization, increased intakes of phosphorus and vitamin D are also necessary. Without them the mother's bones may become so demineralized, especially after lactation, as to give rise to the condition known as osteomalacia, or softening of bones. And due to the increased caloric needs more thiamin and riboflavin are needed, together with ascorbic acid, for intermediate cellular metabolism. Furthermore, if additional supplies of iron are not supplied anemia may affect both the mother and the growing foetus. Despite these essential nutritional needs it is obvious that almost every one must be ignored by the starving women all over Europe who cannot get sufficient food even for normal health, let alone for the added demands of pregnancy.

Food Scarcity and Pestilence.—Always

in times of famine pestilence stalks it like a shadow. Morbidity and mortality rates from infectious and other diseases rise for various reasons, but malnutrition takes a prominent part in them all, principally by decreasing resistance to infectious agents which in normal times could be resisted easily. The facts demonstrating this sinister interrelationship of war, famine and pestilence are no longer a matter of debate; their only important aspect is the mechanism responsible for the sequence.

In the later years of world war I the peoples of many European countries were compelled to subsist on vegetables of low protein values, especially potatoes, cabbage, turnips and carrots. Germany's "turnip winter" of 1916-17 proved definitely that health cannot be maintained for long on a diet of salty soups made from these watery, protein-deficient foods. Subsistence under such unfavorable dietary conditions leads certainly to malnutrition, and it is not surprising that so many Germans suffered from war edema, scurvy, beri beri, pellagra, osteomalacia and other nutritional maladies. The death rates from tuberculosis rose steadily and epidemics gathered strength and momentum in 1917 and 1918. It should be recalled, moreover, that it was in 1918 that the world-wide epidemic of influenza came after four long years of bitter warfare and mass starvation.

But these conditions of world war I did not approach the severity of the present time; right now in Greece and Poland mass starvation has more than decimated the weakened populations. In Greece, according to a recent report in the *Journal of the American Medical Association* "9 out of 10 children die before they reach the age of 6 months." Elsewhere in occupied Europe conditions are almost as bad.

"In no counry under enemy domination is food sufficient to maintain the children in health; in many it is insufficient to keep them alive. Even in countries normally self-sufficient in basic foodstuffs, such as the Netherlands and Norway, requisition of the country's produce, by means either overt or covert, has debased the standard of living, threatening the young, while in Poland and Yugoslavia one must ask how many children will be left alive after another year of war." In occupied France some of the effects of Nazi treatment have been described by Janet Flanner as follows: "It is a large, uniform panel of deterioration, in which . . . everyone is hungry and food is an obsession . . . thousands of rickety, underfed children will soon be bow-legged. Twenty-five per cent of them are estimated to be on their way to tuberculosis. Three pound babies are not uncommon. Only one baby out of five is normal weight at birth. Few, however, are born alive and miscarriages are usual. In Auribeau, a hamlet perched on the slopes behind Cannes with 485 inhabitants, only one live baby was born in the last year. Of thirty victims of diphtheria in the same district, sixteen died; whatever you catch can kill you." And in the *Petit Journal* of April 23, 1943, Bouquet, a physician says: "Already children are being born whose weight is far below normal. . . . Rickets was formerly an exception. Now there are enormous numbers of cases, entailing deformation of the spine, which do not react to treatment. The increase both in quantity and in quality of people who are deformed or weak, women who not only have difficulty in delivery because their pelvic girdles are the wrong shape but who run a grave risk of having children deformed from their birth. Tuberculosis is also increasing in the number and gravity of its cases. . . . An enormous number of the children are victims, because their diet, especially from the age of five onward, is deficient, and the number of deaths is increasing as the forms taken by the disease become graver. They are no longer exceptions. They are the rule. And what will be the fate tomorrow of those who escape?"

Similar harrowing facts might be recorded if one's object were to portray the extent of human degradation and misery brought about by war and its associates,

famine and pestilence. Unfortunately, these deaths are probably slight in comparison with those that will occur this year and in the postwar years in an economically and spiritually depleted world. To the survivors must fall the task of discovering and revealing the causes for these pestilential floods of misery; only then can we hope to find a way at least to ameliorate the morbid conditions which have brought them to their high water marks.

Amino Acids

In the field of infectious diseases scientific evidence indicates a reason why malnutrition leads to decreased resistance to infectious agents. Recently we have learned the chemical composition of antibodies, the materials essential for the acquisition of increased resistance to microbic agents. These antibodies are now known to be globulins, formed by the body's cells and transferred to the blood and lymph as antibody-globulins. A molecule of globulin is a complex protein compounded by the aggregation of many amino acids into a so-called polypeptide chain. Although a complete analysis of globulin has not as yet been made, we know that it contains at least fourteen of the twenty-odd amino acids, including six or more of the essential ones. The essential amino acids are so-called because the body cannot form them itself but must get them preformed in the food. This means that antibody-globulin cannot be synthesized unless the individual has available in his diet a large assortment of amino acids, including several of the essential ones. This necessitates a reasonably omnivorous diet; in states of undernutrition and starvation, however, such a diet is impossible and the body can no longer fabricate antibodies effectively. It is not surprising, therefore, that appallingly high death rates are now occurring in the starving peoples of the occupied countries.

The amino acids of the food must come from proteins, and protein scarcity constitutes a serious menace to every starving person, but particularly to the growing young. Infants and young children, subsisting on minimal amounts of protein in their diets, must face the competitive conditions of inner bodily demands for growth as well as for the construction of the blood proteins, including both normal and antibody globulin. Under these conditions the tissues cannot react as successfully when exposed to the many potentially pathogenic infectious agents in their environment as they would be able to do under better conditions of nutrition. The protein scarcity leads to a lessened capacity to form antibodies and thus to acquire resistance. This fact has been demonstrated in baby animals and helps to explain the phenomena of excessive death rates among starving infants and young children as already described.

Solution of Problem

The solution to the problem, obviously, is to get proteins and other dietary constituents to these starving persons as quickly as possible. The International Red Cross and other philanthropic organizations are doing all they can to save the starving children in Greece, in Belgium and in other occupied countries, but the difficulties are tremendous; one of the greatest difficulties is caused by the sea blockade of the United Nations and the fear that the food will fall into enemy hands. For example, William Temple, Archbishop of Canterbury, has suggested recently that naval policies of the United Nations be altered so as to permit shipments of food to the starving peoples in the occupied countries of Europe. He says, "I fear that at the end of the war we shall find a relatively vigorous Germany surrounded by peoples so weakened by starvation as to present an inevitable drawback to after-war plans." It is doubtful, however, whether enough aid can be given at the present time to accomplish what is imperative if these thousands of starving persons are to be saved. As one Belgian has recently

said, "The whole question is whether the United Nations are fighting to liberate oppressed peoples or to liberate a vast cemetery sparsely inhabited by some wealthy people who survived the ordeal."

Applies to Postwar

In conclusion, I wish only to point out one thing more, namely, that every statement I have made relative to the effects of famine in war applies with equal force, and probably even more so, to the approaching problems of the postwar world. The dislocations which will doubtless come as an aftermath of war, with their accompanying disillusionments, cynicisms, revolutions and other social evils, will force us to study more comprehensively and sympathetically the intricate problems brought into all our homes by the miseries of the war itself. For, after all, the search for food represents one of the most primitive of human instincts, and food production, distribution and consumption comprise a major portion of man's economic activity. And only by recognizing and understanding these problems now can we hope later to find a way to meet them effectively and in time.

For these and other reasons we should look forward with particular interest to the results of the recent food conference of the United Nations. It may be that the understandings arrived at there with reference to the food problems of the postwar world will be of vast significance in the coming years. At any rate we can have the satisfaction of knowing that we have made a united effort to understand and solve these problems before it is too late.

Rehabilitation Necessary

In closing I would like to quote from a recent news account published in the *Chicago Sun* on December 21, 1942: "The National Planning Association has said that the United Nations must formulate a clear-cut postwar reconstruction program for feeding the needy millions of Europe if the world is to survive. Unless the United Nations promulgate a long-range plan for rehabilitating these peoples, the decline of the West will become a reality. The hungry children of 1919 are the storm troopers of today." —*950 East 59th Street, Chicago.*

DISCUSSION

By Robert G. Kesel, M.S., D.D.S.

In wartime as in peace dentists should have a special interest in nutrition for I believe that much of the disease that dentists are called upon to treat results from nutritional unbalance, either a lack or an excess of certain dietary essentials. We may not be keenly aware of this probability because the disease or disturbance may not be detected or may not become evident until long after the period of nutritional disturbance. Or the oral condition may be the result of a prolonged, cumulative fault in eating which, because of its insignificant and chronic nature, is not readily associated with oral lesions.

After reading Dr. Cannon's interesting paper, it is apparent that the war and postwar feeding problems may result in the reduction of certain essential food elements in our daily diet and it may cause an increase in certain elements which dentists have considered harmful. We might review rapidly the importance of some of these factors from the dental viewpoint in order to realize more readily the oral results that may occur if their consumption is altered.

Let us consider first the so-called protective foods, the minerals and vitamins, which are so necessary for the proper formation and preservation of human

teeth. Of the mineral elements, calcium, phosphorus and magnesium are most important. These elements are required for the formation of sound teeth and alveolar bone, and there is evidence to indicate that they are necessary in the prevention of dental caries, pyorrhea and also in the proper eruption and position of the teeth in the jaws. The daily requirement of calcium has been estimated by the Nutrition Committee of the National Research Council to be 1.5 grams for growing children and .8 gram for adults. The chief source of this element is milk and dairy products. Vegetables and whole grains alone cannot supply sufficient amounts. Therefore, if there is a reduction in the use of dairy products—which seems likely—and if there is an increase of refined cereals which have been robbed of their inorganic and vitamin constituents, there may develop calcium insufficiencies with subsequent reflection on the dental health.

Vitamin Levels Reduced

The vitamin levels also may be reduced. This will come about through the restriction of animal products including meat, milk and eggs; through the reduction in the consumption of fresh vegetables for a number of reasons, and through the increased consumption of milled and processed cereals for the stepped-up energy requirements.

The relationship between the various vitamins and dental disturbances are well-known. The importance of vitamins A, D and C is established and recent work has demonstrated the importance of the B complex group which is present in whole wheat, yeast filtrate and to a less extent in meats. Much of this complex is removed, however, from whole wheat through our modern refining processes. While B^1, or thiamin chloride, has not been demonstrated to have any obvious effect on the human dentition, some of the vague neurological disturbances about the jaws which are annoying to the patient and confusing to the dentist have been shown to be the result of thiamin deficiencies. Lack of riboflavin results in characteristic fissures at the commissure of the lips known as cheilitis. Perhaps niacin, another of the B complex group, has the most obvious dental significance. Absence of it results in inflammation of the tongue, the gingivae and the oral mucosa. In some instances conditions resembling Vincent's infection have been reported associated with a deficiency of this element, lesions which cleared up upon the use of niacin therapy. If our cereal products are to be refined and processed for shipment and storage reasons, and if the removal of the B complex vitamin and the inorganic elements are continued, dental deterioration may be considerably increased; particularly if the diets are not supplemented or enriched by the addition of the elements removed in the processing. It would seem that an opportunity is developing for a large scale study of the effect of nutritional disturbances on the oral tissues in the war zones. We have no information whether or not this opportunity is being utilized. In the last war as far as we can learn only one report was made and that was on the effect of sugar restriction. The report was by J. Sim Wallace and showed a reduction in caries activity corresponding with sugar rationing.

Carbohydrates Increased

Apparently in wartime, the carbohydrate portion of the diet is increased at the expense of the protein and fats from animal sources. For a long time dentists have regarded the inclusion of refined carbohydrates into the diet in large amounts as related to dental caries activity. There is an abundant evidence that the caries susceptibility of whole races of people has been altered by the change in the diet resulting from contact with civilization. Whether this relationship is causal or coincidental is not definite but the relationship must

be admitted. The Eskimo, the Hawaiian, certain tribes in the South Seas, the American Indians and others have shown dental deterioration following the introduction of refined carbodydrates into their diet. Leigh, in examining the skulls of the early American Indians, states that the tribes that subsisted on game and fish showed a lower incidence of dental caries than did the agriculturalists. The Sioux were notable examples of this type. The Zuni tribe, who lived principally on agricultural products, showed the highest incidence of caries. It seems that food which is indigenous to the locality in which it is consumed is more beneficial dentally than food which is imported into a community. As long as the natives ate the foods which were grown in their vicinity they had good dental health. But when they forsook their foodstuffs for the more palatable refined carbohydrates, a marked increase in dental disease became evident. Therefore, if our lend-lease and postwar plans send our concentrated and refined foodstuffs in more abundance to other areas in the world, we may find an increase in dental deterioration in the areas thus supplied. Would it not be better for us to supply the implements and the materials necessary to the races of people we expect to benefit and let them grow their own foodstuffs rather than for us to supply them with our prepared products?

Problem of Soil

If we are to grow quantities of food for use in other areas of the globe, will we not further decrease the nourishing elements in our soil, a problem about which a number of nutrition analysts already are concerned. Weston Price and others have said for years that cereals and dairy products grown in Canada upon virgin soil or soil that was close to virginity were much higher in their vitamin and calcium content than were the foodstuffs raised in the Middle West.

A recent report on the foodstuffs grown in Deaf County, Texas, the area which according to reports in the public press has so little dental caries, shows that the grains grown in that territory have a much higher content of calcium and phosphorus than do grains produced in the midwest. There was estimated to be 600 per cent more phosphorus in the wheat from the Texas area. While the possible depletion of the soil of its protective food elements might not be of immediate concern, it is a problem which should be recognized and corrected if we are to keep faith with future generations. I recently heard a man talk on the sewage disposal problem in the Chicago area. Twenty-five million crop acres of land are required to grow the grains and vegetables consumed in metropolitan Chicago exclusive of the pasturage that is used to produce the meat and dairy foodstuffs. It is estimated that about 25 per cent of the food eaten is consumed as energy and the rest eliminated which means that a considerable amount of various food elements pass into the sewage disposal system as waste and are lost to the twenty-five million acres from which they were removed. He contended that ways and means must be developed for returning these elements to the soil or there will be a gradual depletion of essential elements in the foodstuffs grown on these lands.

Education Necessary

The task of educating the public to the need for good nutrition is one which must be given more careful consideration. Prof. Anton Carlson, of the University of Chicago, has stated that there are ninety-five million people in the United States who cannot or do not eat the right foods. As most of them have the ability, within their means, to provide themselves with an adequate diet, it must be that the majority are not obtaining the proper foods either through ignorance or bad eating habits. We may tell them what to eat, but we cannot

(Continued on page 45)

Sulfathiazole and Sulfadiazine Prophylaxis in Exodontia

By Philip S. Faillo, D.D.S., M.D.S.

A series of twelve case histories presented by the author in the following article are used to substantiate his findings in the use of sulfathiazole and sulfadiazine in exodontia.

Although chemotherapy in medicine and dentistry is thought to be a relatively new science, many attempts have been made in the past forty years to control diseases with chemicals. With the advent of bacteriological research many chemists have dreamed of synthesizing a drug or drugs for use as a chemotherapeutical agent. Sulfanilamide was first synthesized in 1908 by Gelmo, a German organic chemist.* This compound was utilized in the German dye industry in the form of an azo compound but not seriously thought of as an antibacterial agent for over a quarter of a century after its discovery. It is interesting to note, according to Spink,* that the therapeutic properties of sulfanilamide were also uncovered by individuals connected with the dye industry in Germany.

Pioneers in the Sulfas

Credit for the unusual research program which gave birth to the search for chemicals that would be effective against bacterial infections is given to three men in the I. G. Farbenindustrie (dye works) at Elberfeld, Germany, Gerhard Domagk,* Director of the Institute of Experimental Pathology, and two chemists, Fritz Mietzsch and Josef Klarer. In 1932 Mietzsch and Klarer synthesized a water insoluble basic azo dye known as sulfamido-chrysoidine or prontosil. In the same year Domagk showed that mice could be protected against fatal attacks of streptococci with prontosil, but it was not until 1935 that he announced his discovery to the world.

French investigators having become aware of a new trend in chemotherapy started to work upon identical compounds and synthesized prontosil in France. Levaditi and Vaisman, using the same compounds, confirmed the experiments of Domagk. Thus important steps in chemotherapy were undertaken; because at the Pasteur Institute under the direction of Forneau, the Trefouels with Nitti and Bovet postulated that the prontosils were reduced in the human body to form free sulfanilamide and demonstrated that this compound possessed antibacterial activity. It was this amazing discovery which paved the way for extensive experiments and clinical studies without trouble from patent rights.

Additional Research

English workers* in 1935 sought to verify these reports from the continent and as a result, evidence that prontosil was effective in human streptococci infections was brought out by Colebrook and Kenny at the Queen Charlotte Square Hospital in London.

Meanwhile extensive experimental and clinical studies were started in this country. Due credit is particularly given to groups working at Johns Hopkins hospital for their initial brilliant work. Perrin H. Long* and his associate, Elea-

*See bibliography on page 21.

nor A. Bliss, reported their findings in November 1937, to the effect that prontosil and sulfanilamide acted directly on the microorganisms thereby producing bacteriostasis.

There is no question that a new era has begun in chemotherapy; hundreds of derivatives of the parent compound, sulfanilamide, have been synthesized.

The substance of this discussion will deal mainly with the two latest and important compounds of sulfanilamide, namely, sulfathiazole and sulfadiazine as used in exodontia and oral surgery. An encouraging amount of literature is beginning to appear in both medical and dental journals dealing with the local use of sulfathiazole in general and extraction wounds of the mouth. In my practice for the past year, the use of sulfathiazole locally and sulfadiazine orally has become routine in those cases in which postoperative infectious complications might be anticipated. Before twelve case histories are presented, the chemistry of the drugs used will be discussed.

There are five compounds available at this time: neoprontosil, sulfanilamide, sulfapyridine, sulfathiazole and sulfadiazine. *Figure 1* will give a concept of their chemical structure.

Action of the Sulfa Drugs in the Body.—During the early use of the sulfa drugs many investigators postulated that the action of these compounds was indirect upon bacteria. It was believed that perhaps they stimulated the body defenses promoting increased phagocytosis and thereby reducing the number of bacteria in the body. Another thought dealt with the destruction of the capsule of the virulent bacteria and thus in this avirulent state they were rendered more susceptible to destruction by the defense mechanism of the host.

It is now generally agreed by most investigators that the action of these compounds is one of bacteriostasis. There seems to be an interference in the rate of growth of bacterial cells or unbalanced metabolic process of the cell. Going further, it has been shown that the drug not only slows the rate of growth but actually injures the cell itself to the point wherein normal body defenses are able to destroy these bacterial cells by phagocytosis and lysis.

A knowledge of the absorption and excretion of sulfa compounds is of great importance as much damage can be done if they are improperly handled. It is agreed that one of the most valuable features of the chemotherapy of these compounds is that they are effectively administered orally. The drug is given in such amounts per kilo weight of the body as to insure its saturation in the blood stream. This saturation is not accurately known unless determinations are made quantitatively until sulfanilamide is excreted. This determination is made after twenty-four hours and the dosage adjusted accordingly. The kidneys are the major excreting channels for the drug which is absorbed.

When toxic manifestations arise one must only increase the fluid intake of the patient to rapidly eliminate the effects via the kidneys. It must be borne in mind that caution is to be exercised in administering these compounds to patients with impaired renal function. If a patient, on the other hand, is seriously ill and must have a high concentration of these drugs in the blood stream, then the fluid intake is restricted. When the acute stages of the disease have subsided the dosage is lowered and the fluid intake increased.

The following is the routine for local application of sulfathiazole:

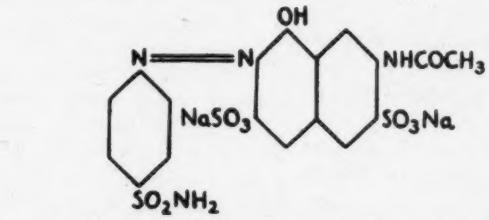
1. The powdered sulfathiazole (manufactured by a reputable drug house) is autoclaved to insure it against outside contamination and then stored in a sterile receptacle.

2. The wound is cleansed from all débris such as loose spicules of bone or pieces of tooth with a warm saline solution.

3. The socket is dried with a sterile sponge.

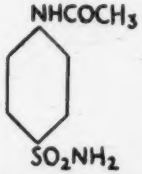
4. About one gram of powdered sulfathiazole is placed directly in the socket.

Chemical Structure of Sulfonamide Compounds

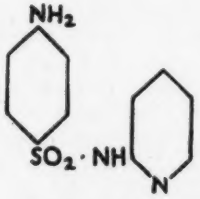


Azosulfamide (Neoprontosil or Prontosil-Soluble)

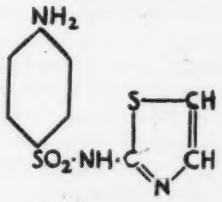
Sulfanilamide



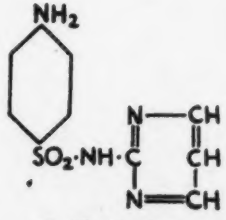
Conjugated or acetylated sulfanilamide



Sulfapyridine



Sulfathiazole



Sulfadiazine

SPINK

FIG. 1.

5. The wound or socket is sutured and covered with a sterile sponge.

6. The patient is kept in office until the blood clot and powdered sulfathiazole are well incorporated.

7. Patient Instructions:

a. Do not irrigate mouth for the first twenty-four hours.

b. An analgesic may be used to relieve postoperative pain.

c. Apply cold compresses to outside of face for the first twenty-four hours.

d. If swelling is evident on second day use hot, moist compresses on face.

The internal or oral administration of sulfadiazine in conjunction with local use of sulfathiazole:

Sulfadiazine tables Gm. 0.5
mittee xvi
Sig: Two (2) tablets every four hours for the first twenty-four hours, and then one (1) tablet every four hours.

If the drug is used as a prophylactic measure and no serious illness is present at the time of operation, instruct patient to increase fluid intake. If the patient is suffering from a cellulitis with an infection already in progress, concentrate drugs in body by decreasing fluids for the first twenty-four hours.

Case Histories

Case No. 1.

Name—A. B.

Age—18 years.

Sex—male.

Stature—slight.

Present complaint—Pain and swelling in lower right third molar area.

Diagnosis—Pericoronitis of the lower right third molar.

Preoperative preparation—Irrigate under flap with tincture of merthiolate and apply 2 per cent gentian violet. Three treatments were given at two day intervals until time of surgery. Dilute hydrogen peroxide mouth wash.

X-ray examination—reveals mesioangular impaction of lower right third molar.

Anesthetic—2 c.c. of Novocain-Cobefrin, conduction.

Dressing—Pack socket with powdered sulfathiazole, 1 gm., iodoform dressing with liquid benzocaine.

Suture—1 silk.

Operating time—10 minutes.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for the first 24 hours, then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, mouthwash after 24 hours.

Postoperative treatments — Dressing renewed on third day and fifth day after surgery, thereafter benzocaine paste used. Patient dismissed on tenth day following surgery.

Case No. 2.

Name—J. B.

Age—30 years.

Stature—medium.

Sex—female.

Present complaint—Pain in lower right side of face.

Diagnosis—Visual examination reveals nothing. Pain may be due to eruptive pressure of impacted third molar.

X-ray examination—reveals horizontal impaction of lower right third molar, root apices bordering on the mandibular canal.

Anesthetic—2 c.c. Novocain-cobefrin, conduction.

Dressing—Pack socket with 1 gm. of powdered sulfathiazole, no dressing used.

Suture—4 silk.

Operating time—31 minutes.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for the first 24 hours and then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, dilute hydrogen peroxide mouth wash after 24 hours.

Postoperative treatments—None. Sutures removed on seventh day following surgery. Patient dismissed on fifteenth day.

Case No. 3.

Name—B. D.

powdered sulfathiazole, no dressing used.

Suture—1 silk.

Operating time—4 minutes.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for first 24 hours then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, hydrogen peroxide mouth wash after 24 hours.

Postoperative treatments—None. Sutures removed on fifth day following surgery. Patient dismissed on seventh day following surgery.

Case No. 7.

Name—A. G.

Age—40 years.

Sex—male.

Stature—heavy.

Present complaint—Pain and swelling in lower left third molar area.

Diagnosis—Pericoronitis of lower left third molar.

X-ray examination—reveals infected area distal to lower left third molar roots, tooth erupted.

Preoperative preparation — Irrigate flap with tincture of merthiolate and 2 per cent gentian violet. Six treatments applied at 2 day intervals until time of surgery. Sulfadiazine, orally.

Anesthetic—2 c.c. Novocain-cobefrin, conduction.

Dressing—Pack socket with 1 gm. of powdered sulfathiazole, no dressing used.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for first 24 hours then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, warm mouth wash after 24 hours. Patient never returned to office for postoperative check-up.

Case No. 8.

Name—W. E. H.

Age—30 years.

Sex—female.

Stature—slight.

Present complaint—Pain in lower left side of face.

Diagnosis—X-ray examination.

X-ray examination—reveals horizontal impaction of lower left third molar.

Anesthetic—2 c.c. of Novocain-cobefrin, conduction.

Dressing—Pack wound with 1 gm. of powdered sulfathiazole, iodoform dressing, liquid benzocaine. Extensive hemorrhage due to ruptured mandibular artery, stopped with pressure.

Suture—1 silk.

Operating time—18 minutes.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for first 24 hours, then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, hydrogen peroxide mouth wash after 24 hours.

Postoperative treatments — Dressing renewed on third, fifth, seventh and ninth day following surgery, sutures removed on seventh day. Patient dismissed on twentieth day following surgery.

Case No. 9.

Name—T. C. L.

Age—45 years.

Sex—male.

Stature—slight.

Present complaint—Patient referred to two dentists who made an attempt to remove impaction unsuccessfully. When first seen the patient was in the hospital in mild shock. Patient was treated until soreness and trismus subsided.

Anesthetic—4 c.c. Novocain-cobefrin, conduction. Premedicated with one-quarter grain of morphine-sulfate.

Dressing—Pack socket with 1 gm. of powdered sulfathiazole, iodoform dressing with liquid benzocaine.

Suture—2 silk.

Operating time—6 minutes.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every four hours for 24 hours, then 1 tablet every four hours for 48 hours. A. S. A. compound to control pain, hydrogen peroxide mouth wash after 24 hours.

Postoperative treatments — Dressing renewed on third, fifth and seventh day, sutures removed on seventh day. Patient dismissed on twelfth day following surgery.

Case No. 10.

Name—C. L.

Age—16 years.

Sex—male.

Age—23 years.

Sex—female.

Stature—medium.

Present complaint—Pain and swelling in lower left third molar flap.

Diagnosis—Pericoronitis of the lower left third molar.

Preoperative preparation — Irrigate flap with tincture of merthiolate and 2 per cent gentian violet. Four treatments applied at three day intervals until time of surgery. Hydrogen peroxide mouth wash.

X-ray examination—reveals mesio angular impaction of lower left third molar.

Anesthetic—2 c.c. of Novocain-Cobefrin, conduction.

Dressing—Pack wound with 1 gm. of powdered sulfathiazole, iodoform dressing with liquid benzocaine.

Suture—2 silk.

Operating time—6 minutes.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for first 24 hours, then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, dilute hydrogen peroxide mouth wash.

Postoperative treatments — Dressing renewed on third and fifth day following surgery. Benzocaine paste dressing used thereafter. Sutures removed on seventh day. Patient dismissed on twelfth day following surgery.

Case No. 4.

Name—D. B.

Age—27 years.

Sex—female.

Stature—slight.

Present complaint—Pain in lower left side of face.

Diagnosis—Visual examination reveals nothing.

X-ray examination—reveals horizontal impaction of lower left third molar.

Anesthetic—4 c.c. Novocain-Cobefrin, conduction.

Dressing—Pack socket with 1 gm. of powdered sulfathiazole, iodoform dressing with benzocaine paste.

Suture—3 silk.

Operating time—20 minutes.

Medication—Sulfadiazine (0.5) 2 tablets every 4 hours for the first 24 hours, then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, hydrogen peroxide mouth wash after 24 hours.

Postoperative treatments — Dressing renewed on third and fifth day following surgery, sutures removed on seventh day. Patient dismissed on fifteenth day following surgery.

Case No. 5.

Name—G. F.

Age—45 years.

Sex—female.

Stature—heavy.

Present complaint—Patient has no upper left cuspid.

Diagnosis—X-ray examination.

X-ray examination—reveals impacted upper left cuspid with lingual inclination, also composite odontoma.

Anesthetic—3 c.c. Novocain-cobefrin, infiltration.

Dressing—Pack wound with 1 gm. of powdered sulfathiazole, iodoform dressing with liquid benzocaine.

Suture—6 silk.

Operating time—20 minutes.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for the first 24 hours, then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, hydrogen peroxide mouth wash after 24 hours.

Postoperative treatments — Dressing renewed on third, fifth and seventh day following surgery, sutures removed on seventh day. Patient dismissed on twenty-first day following surgery.

Case No. 6.

Name—M. F.

Age—30 years.

Sex—female.

Stature—slight.

Present complaint — Tenderness in lower left third molar area.

Diagnosis—Partial impaction of lower left third molar.

X-ray examination—reveals partial impaction of lower left third molar.

Anesthetic—2 c.c. Novocain-cobefrin, conduction.

Dressing—Pack socket with 1 gm. of

Stature—small.

Present complaint—Patient has no upper right cuspid.

Diagnosis—X-ray examination.

X-ray examination—reveals impacted upper right cuspid.

Anesthetic—3 c.c. Novocain-cobefrin, infiltration.

Dressing—Pack wound with 1 gm. powdered sulfathiazole, no dressing used.

Sutures—8 silk.

Operating time—30 minutes.

Postoperative treatments—None. Sutures removed on seventh day following surgery. Patient dismissed on fifteenth day.

Case No. 11.

Name—F. T.

Age—19 years.

Sex—female.

Stature—slight.

Present complaint—Pain in lower right side of face.

Diagnosis—Partially impacted lower right third molar.

X-ray examination—reveals partially erupted lower right third molar.

Anesthetic—2 c.c. Novocain-cobefrin, conduction.

Dressing—Pack socket with 1 gm. powdered sulfathiazole, no dressing used.

Sutures—4 silk.

Operating time—4 minutes.

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for first 24 hours then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain and a hydrogen peroxide mouth wash after 24 hours.

Postoperative treatments—None. Sutures removed on seventh day following surgery and patient dismissed on tenth day.

Case No. 12.

Name—V. W.

Age—24 years.

Sex—female.

Stature—medium.

Present complaint—Pain and swelling in lower left third molar area.

Diagnosis—Pericoronitis of lower left third molar.

Preoperative preparation — Irrigate flap with tincture of merthiolate and 2 per cent gentian violet. Three treatments applied at 2 day intervals until time of surgery.

X-ray examination—reveals partially erupted lower left third molar.

Anesthetic—2 c.c. Novocain-cobefrin, conduction.

Dressing—Pack socket with 1 gm. of powdered sulfathiazole, iodoform dressing with liquid benzocaine.

Sutures—None.

Operating time—6 minutes..

Medication—Sulfadiazine (0.5 gm.) 2 tablets every 4 hours for 24 hours and then 1 tablet every 4 hours for 48 hours. A. S. A. compound to control pain, and warm hydrogen peroxide mouth wash after 24 hours.

Postoperative treatments — Dressing renewed on third, fifth and seventh day. Patient dismissed on twelfth day following surgery.

Conclusions.—From the literature and case histories it is concluded that the use of sulfathiazole locally in conjunction with sulfadiazine internally is beneficial because:

1. Bacteriostatic qualities from the sulfathiazole applied locally help tissue regeneration.

2. Sulfadiazine internally acts as a prophylaxis against the spread of infection.

3. The recovery of the patient to normal health is speedy and uneventful.—*1908 St. Charles Road, Maywood, Illinois.*

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The Victim's Viewpoint

Editor's Note: This is the first of a series of articles executed by a non-professional writer expressly for the ILLINOIS DENTAL JOURNAL. *The articles present a "worm's-eye view" of the dentist, the dental office, dental methods, etc. If these writings seem a bit rough, remember that sometimes so are dentists. We are printing this series with a notion that it is good occasionally to "see ourselves as others see us."*

Dentists are extraordinary, indeed.

There are some people of unjaundiced and unprejudiced eye who can admire in the digital dexterity of the dentist the same finger-facility that marked a Rachmaninoff or a Paderewski; or who can perceive an aesthetic analogy between the delicate and torturing way a dentist plays on one's nerves and the smooth drawing of the bow across the strings that a Kreisler or a Heifitz is capable of; or profess to hear in the head-shuddering noise of a burr against an eye-tooth the deep organ diapason of a Bach or a Pietro Yon. But we have never been able sufficiently to overcome our mundane emotions to appreciate such comparisons.

No, our associations are almost wholly literary and psychoanalytical, and after some thought on the matter we have come to a conclusion which we think is correct. And that is that every dentist has in him something of Iago.

All of us remember Shakespeare's arch-villain, and the heinous way in which he tormented his master, Othello, and eventually brought destruction to all concerned. Why he did has long puzzled some of the best critical minds, who have described his conduct as being one of "motiveless malignity," and have said that he himself seemed not to know why he acted as he did. But lately a clever scholar discovered the reason, in Iago's soliloquy at the end of Act I. There, Iago says:

> Let me see now:
> To get his place and to plume up my will
> In double knavery—How, how?—Let's see—

To plume up his will! Let us scan that for a moment. "To plume" in Elizabethan times meant to "heighten." And why should he have wanted to heighten his will? Because he was a man of superior intellect, and his position as mere ancient or servant-companion to Othello offended him; therefore, if he could do something devilish—involving a perilous intrigue—that would harm his master, his own sense of superiority would be heightened.

Why does a husband bully the wife and child he loves? Why are

little short people so aggressive on street cars, squeezing between the standing rows of people with such belligerency as to knock one from one's feet? Why do policemen shout so loud and act such unreasonable stinkers when they give a ticket, or catch you on a sly U-turn? Why do nasty little boys pull wings off flies, or impale them on pins, or tie tin-cans to dogs' tails? The answer to all these questions is very simple: such acts heighten their sense of superiority over their victims, and the sufferer's pain increases their own feeling of importance.

Freud and others say there is a bit of the sadist in each of us; and that such is all right provided it is sublimated. This seems in point, but the question is: do dentists sublimate their sadism?

We have opened our mouth widely for many of these torturers, from Maine to Montana, and we are ready to swear that on more than one occasion—as we have been approached, lying there helpless and trembling—we have seen a diabolic gleam in their eyes as they reached for their tools. There is one certain prober, doubtless invented by Beelzebub, which they use when they begin their preliminary surveying. It is shaped vaguely like a sophisticated cork-screw, and is evidently intended to search out the secret places of one's heart; we personally have felt it go even lower, and are sure it once left a scar on our right kidney. With what ghoulish glee they brandish this! Of course, all such minor manipulations pale when they begin to adjust the burr and prepare really to get down to work. There is a certain foul deliberation in the way in which they insert the thing, and lock it with a click. Then they hang the whole apparatus up, so that you may be given an exquisitely painful, sweating moment to see if the burr is small and round, or terrifyingly long with spikes on it. They watch you with a cold eye and a false smile on their faces, noting your every reaction, while pretending to say something innocuous about the weather. But you know what is in their warped minds: they are employing the Gestapo technic of delayed execution, and you are well aware they are playing with you as a cat worries a mouse. Then they begin—but let us draw a curtain over this painful scene; even in thinking of it we have worked ourself into a cold dribble.

Freud adds that the most successful surgeons, nay—even the most skillful carvers of turkey at a table—owe their repute to the fact that they have turned their love of slicing into useful channels.

But as for dentists—*we* know better! We know that they've never heard of sublimation and that they like their torture straight, and our gums bloody and raw. We feel this way because our appointment is on the books for next Thursday.—***Philip Sparrow.***

Membership of State Society Totals 5,004 During the Year 1943

The analysis of the annual membership résumé appearing on the following page is called to the attention of the members of the society. For the second consecutive year the total membership passed the five thousand mark.

A membership total of 5,004 in the Illinois State Dental Society for the year 1943 has been reported by the office of the secretary, L. H. Jacob. The accompanying table shows in detail the distribution of members and other items of information concerning the number of members in service, the number of delinquent, deceased, retired and transferred members. A comparison with last year's figures is also given. Out-ranked only by New York, Illinois for the third consecutive year was second in membership in the entire country.

Breakdown of Membership

The total membership of 5,004 may be broken-down into the following divisions: life members, 796; annual members, 3,319; reinstated members, 93; new members, 69; recent graduates, 87; complimentary members, 71; members in service, 630. It should be noted that the total number of members in service is 1,175. Of this number 364 paid both state and national dues and are therefore included in the annual membership total. Thirty-six members are in foreign service and are exempt from both A.D.A. and state dues. One hundred and forty-five have not paid dues and are delinquent on the A.D.A. membership record but not on that of the state society. Seven members, not verified by the Chicago Dental Society, are included in the annual total.

With a total of only 55 delinquents, a new record was set by the society. In 1941, 157 delinquents were reported, 1942 showed a drop to 61 and the 1943 record has continued the downward trend. Twelve components reported no delinquents. They were: G. V. Black, Champaign-Danville, Eastern Illinois, T. L. Gilmer, Kankakee, Knox, Madison, Peoria, St. Clair, Wabash, Warren and Winnebago. Chicago had 45 and McLean 2, all others had only one. Through death the society lost 33 members as compared with 43 in 1942; by resignation and transfer the loss was 15 as compared with 12 in 1942.

Credit to Committee

Much of the credit for this splendid record goes to the Membership Committee of the society. James E. Mahoney, of Wood River, is chairman of this committee and other members are: L. H. Jacob, Peoria, secretary ex officio; S. A. Wiggins, Rock Island; J. A. Steele, Marengo; E. J. Rogers, Peoria; R. H. Bradley, Jacksonville; W. J. Gonwa, Chrisman; Van Andrews, Cairo and Edward W. Luebke, Chicago.

Members are urged to remember that membership in local, state and national dental societies expired on December 31. Dues, therefore, are due on January 1 and must be paid promptly in order to insure uninterrupted membership and magazine subscriptions.

Résumé of Membership—January 1, 1943 to December 31, 1943

	Life	Old Members		New Members			In Service Pd. ADA	Total 1943	Membership Loss		
		Annual	Reinstated	Regular	New Grads	Comp.			Delinquent	Deceased	Resigned Transferred
G. V. Black	32	64	3	3	2	1	18	123			
Champaign-Danville	14	44	2		1		20	81			1
Chicago	430	2418	62	57	73	57	414	3511	45	20	9
Decatur	25	41	3			1	6	76	1	1	
Eastern Illinois	13	23					8	44			
Fox River	11	99	2	3	1		12	128	1	2	
T. L. Gilmer	19	29	2	1			10	61		1	
Kankakee	9	22					6	37			1
Knox	6	14					3	23			
La Salle	18	38	2				5	63	1	2	
McLean	19	31	1		1	1	9	62	2	1	
Madison	16	69		1		3	15	104		1	
Northwest	16	25	1	1	1	1	5	50	1		
Peoria	23	79	5		1	2	30	140			1
Rock Island	18	36	2				10	66	1		
St. Clair	17	58	2	1	6	5	18	107		2	1
Southern Illinois	12	83	5	2	1		14	117	1		1
Wabash	6	28	1				7	42			
Warren	7	4					1	12			
Whiteside-Lee	4	21					6	31	1		
Will-Grundy	10	30					8	48	1		
Winnebago	11	62					5	78		1	1
Total	736	3318	93	69	87	71	630	5004	55	31	15
Non-Resident	8	1						9			
Retired	52							52		2	
1943 Membership	796	3319	93	69	87	71	630	5065	55	33	15
1942 Membership	707	3730	159	90	82	73	179	5020	61	43	12
Comparative Totals	+89	−411	−66	−21	+5	−2	+451	+45	−6	−10	+3

Members in Service:

Paid A.D.A. dues only		630
In foreign service—exempt from A.D.A. and state dues		36
Paid 1943 state and A.D.A. dues (Included in annual membership)		364
1942 members who have not paid 1943 dues	91	
1941 members who have not paid 1942 and 1943 dues	50	
1940 members who have not paid 1941-1942 and 1943 dues	4	145*
Total in service—1943		1175
Not verified by Chicago Dental Society		7
(Included in annual membership)		1182

*These 145 men in service in this country are not included in the 1943 membership total (5004) as only members in foreign service are accepted by the A.D.A. without payment of dues and included in the A.D.A. membership list with those who have paid 1943 dues.

EDITORIAL

AFTER ONE YEAR

One year ago, in December, the present editor published his first issue of the ILLINOIS DENTAL JOURNAL. Since then life has been a series of deadlines, twelve in all. We presume that in normal times publication dates would not be quite as hectic as they are now. Now, government rulings, notices, directives and bulletins make it necessary that the editor approach each issue with a certain trepidation. There is always the chance that early governmental bulletins, which are in type and ready to print, will be countermanded or changed; or that more important ones will be issued for which there is no room between the bulging gray covers. Likewise, some certain things now *must* be printed while others *cannot* be.

After a year as editor of the JOURNAL we have nothing but praise for our staff. Louise Redeker, our one man office force, who has been with the JOURNAL under three editors, gets our warm thanks. Next on our list is genial and friendly Mel Zinser, who, as business manager, inherited us. Under Mel the JOURNAL had several wonderful business years; Mel, through press of other duties, resigned to be replaced by Bob Placek, the present business manager. Under Bob business has gone on as usual without a break or a slip. We should also like to give public thanks to Jimmy Keith from Evanston, well known conductor of Here and There, probably the JOURNAL'S best read section. Each month, sure as time and tide, Jim turns out two pages of swell copy.

The other members of our staff, Maynard Hine, of the University of Illinois, College of Dentistry, William G. Skinner, of Northwestern University Dental School and Warren Willman, Chicago College of Dental Surgery, who have filled various and sundry writing assignments in excellent style, have our deep gratitude. We are very grateful to all the component editors for their support. Likewise, to the two presidents under whom we have served, Neil Vedder and Frank Hurlstone, and the secretary, L. H. Jacob and Edward J. Krejci, of the Publication Committee, we say, "Thanks for your help!" Last, to all those friends who have given us needed advice or written us articles we express our appreciation. You all made the deadlines a little easier to face.

As we embark on another year we hope the JOURNAL pleased at least the biggest percentage of the membership. We have tried to make it readable and up to date. In 1944 we will strive for the same goal. We have a few new things planned; we hope you will like them. The first is a series of articles about dentists and dentistry by a non-dentist, Philip Sparrow, beginning in this issue.

DUES

The dental society year begins as does the fiscal year of most businesses, on January 1. Memberships in the American Dental Association, the state society and the local component expire at this time. So, dues are due.

To relate the many services rendered to the dental profession by the dental association would be practically impossible. Almost any of the single services given by the society, of which there are many, is worth more in a monetary way in a year's

time than the small amount of dues paid by the dentist. For example, the legislative and legal service rendered by the society could not be purchased by the individual. We have only to look at the recent mail-order denture bill to realize this; when this bill was finally passed it was only after years of work by the A.D.A. and various state societies. Now its effects will help every dentist in the United States. More tangible things paid for out of society funds are the publications received by the dentist, meetings and the services rendered by the officers of the state society and secretaries of the components.

These almost inumerable things are given by the American Dental Association, the Illinois State Dental Society and your local component in exchange for your dues. If the individual received only the various society publications the money would be well spent.

The plea here then, is not to attempt to justify the dues or the amount of the dues; these need no justification. The plea is for immediate payment upon receipt of your bill.

HELP IS NEEDED

Dentists are just as liable to come upon misfortune and reverses as are the people of all other walks of life. Like others dentists have health and financial failures, the two biggest causes of social insecurity in the world. There was a time when dentists had no recourse from such calamities. However, since 1907 the American Dental Association has had a fund to minister to the needs of professional unfortunates.

This Relief Fund is supported by your contributions made upon receipt of A.D.A. Christmas Seals. These Christmas stamps you have had for approximately a month. If you have not already done so would you mail a check, or place several dollars in an envelope and address it to the American Dental Association Relief Fund, 222 East Superior St., Chicago, 11, Illinois.

We are sure that the Relief Fund would be much greater each year if men did not *forget* to make their contributions. So, would you make yours now to avoid a lapse of memory! Remember the cause and the fact that the amount may be subtracted from income tax compilations.

I RESOLVE

New Year's resolutions are quite similar to the bright colored glass balls decorating Christmas trees; they are beautiful but fragile. Such resolutions are easy to make and hard to keep. It would appear from observation of bygone years that a few good workable resolutions are much better than multitudinous ones or those so difficult they will never be executed.

We presume that most resolutions are made along the lines of self-improvement; and this is proper. Year's end is the correct time to resolve out or at least cut down such improper habits as wife beating, robbing churches, the blind and poor boxes, eating crackers in bed, getting soused before breakfast, missing dental society meetings, throwing chewing gum on the sidewalks, teasing small children and using dull burs.

Seriously, with prospects of continued and more bloody war lurking in the darkness of the coming months, it would seem that all New Year's resolutions should include the war effort and God, but perhaps in the reverse order.—*Wm. P. Schoen, Jr.*

HERE and THERE

The man who idly sits and thinks,
May sow a nobler crop than corn,
For thoughts are seeds of future deeds,
And when God thought—the world was born.

There doesn't seem to be much time for sitting and thinking these days and so a man is entitled to considerable credit when he develops a new idea. It took a dentist, no less, to figure out what to do about the frightful injuries that are apt to be the accompaniment of forced aircraft landings. He noticed that the members of the crew that survived usually had gaping wounds of the head and face which were extremely disfiguring. As a rule, none of their lower extremities were seriously involved. Consequently he devised a protective mask to check all this havoc. The apparatus is a cross between a catcher's mask and football player's helmet. The crew member is supposed to carry it beside him and, when he learns that a crash is imminent, due to mechanical difficulties or lack of gas, he can adjust it in the twinkling of an eye . . . This war, with air power assuming a major role, has increased the tempo considerably of world war I. Not long ago, during the Sicilian campaign, a complete evacuation hospital was flown in and dropped into the scene of action. It was the first time in history that a hospital unit had ever preceded an assault. The unit spent three days and two nights on the beach with German bombs smashing all around them. Lt. M. A. Bauer, of Yonkers, New York, reports that the men thereupon nicknamed themselves the Bedpan Commandos . . .

The Aussies

The observation has frequently been made that the Australian viewpoint is closer to the American than it is to the English. This despite the fact that Australia belongs to the British Commonwealth of Nations and that its people are loyal to that banner. Scientists say that an individual is a product of his environment and his heredity. Just which one of these has the greatest influence upon a people's character is still a matter of endless controversy. But, be that as it may, it is interesting to compare the development of the Australian and the American. The first settlers in each country were "undesirables." They were the political offenders, social reformers and independent spirits who opposed the established order. It is estimated that between one hundred and fifty to two hundred thousand of these prisoners were sent to each of the colonies. Naturally, after they had served their sentences and were free to live in the lands of their adoption they were anxious to make sure that no caste system such as existed in England at that time would be repeated. For that reason both America and Australia are democratic to the core. Australia, too, had a gold rush. Back in 1850 to 1860 some four hundred thousand miners emigrated there and about one-fourth were from America. Australia is practically the same area as the United States. It has enormous natural resources. Over one hundred thirty million sheep and forty million cattle range the country side. Without in any way assuming prophetic powers, it is not hard to believe that these two countries will have much in common when the war is over.

Sherman-Was-Right Department

In Chicago, Mrs. Nellie Vileta, freshly divorced, told the judge that her husband had swiped her false teeth and used all the meat coupons for himself. She got the teeth as alimony . . . WPB has prohibited the manufacture of paper linens for finger bowls. Well, who has seen any

finger bowls, with or without, lately? . . . When, for no good reason, employees fail to show up for work at the Columbia Steel Tank Company, Kansas City war plant, they get a sharp rap on their knuckles. They get their pay for the time lost in the form of a check drawn on the "Bank of the Axis," signed by Adolph Hitler, countersigned by Benito Mussolini. Grimly printed across its face: "Negotiable in human lives." Absenteeism has dropped 27 per cent . . .

Amazons and Bottlenecks

What with labor shortage and all, we have found someone who can replace at least twenty employees, according to an ad in the *Miami Herald*. "Lady, sturdy, is looking for a new connection. Has had fifty jobs, among them being: Copyholder, proofreader, editorial assistant, editor, associate editor, columnist, ghostwriter, copywriter, printing production manager, writer, cook, maid, dentist's and physician's assistant, taxi dancer, dance instructor, tutor, night secretary, salesgirl, laboratory technician, model, collaborator, mistress of ceremonies, florist, translator, factory worker. Well-groomed, well-dressed and well-mannered." At last report the lady was doing all right in Washington . . . Instead of smashing bottlenecks, a chap in the East is selling them. A lot of empty beer bottles have been piling up from imported brew, what with no shipping space to send them back. So he started a factory for beer bottle conversion, cutting the tops off, melting the edges with a blow torch and selling them at the rate of 2,000 a day for drinking glasses, of which there's a shortage thereabouts. What's furthermore, he sells the bottlenecks to the British Royal Signal Squadron as telegraph pole insulators. Even the broken bottles are converted into ash trays.

To be overweight in these days when every ounce of food must be used wisely is unpatriotic as well as unhealthy and unesthetic, health authorities charge. Tables are published by the leading insurance companies showing average weights. A person is apt to put too much faith in these tables because they give no consideration to differences in body build and height. Then, too, they allow increases with advancing years that are neither necessary nor desirable. A young adult can have a moderate amount of fat and this is considered beneficial. But when a person approaches middle age it's time to watch the step. It's the easiest thing in the world to gain weight at that time and a hard struggle to lose it again. Most people, no doubt, continue to eat the same amount but curtail their physical activity. The underweights have a distinctly better longevity record than the overweights. Q. E. D.

Dim Out

In a suburban community not far from Chicago lives a farmer by the name of Black. His sons have grown up and taken over the farm work so that all the old man has to do it to sit on the veranda and dream of the past. To help while away the hours he'd help himself to a bit of *spiritus frumenti* from time to time. At first he'd take a drink just once in a while. Later he drank one twice in a while and still later three times in a while. Then one day he noticed there was something the matter with his eyes. He no longer could see beyond the barn. On the advice of one of his sons he went to see an occulist. The physician peered into his eyes with an ophthalmoscope and told the farmer that he was developing atrophy of the optic nerve. That didn't mean much to the patient so the physician put it more strongly. "If you don't stop drinking," he said, "you'll go blind." This the farmer could comprehend. He regarded the oculist thoughtfully for a moment and then remarked, "Well, Doc, I guess I'll just go on drinking, I'm an old man and I've seen darned near everything anyhow."—*James H. Keith.*

1944 MEMBERSHIP

Your membership in the Illinois State Dental Society, American Dental Association and component dental society expired on December 31.

1944 dues should be paid immediately to your Component Secretary to avoid a lapse in your membership and to insure prompt receipt of your dental journals.

If you have not already made your remittance for 1944 dues, do so today. Your dental organizations appreciate your cooperation in the past and urge your continued support in this New Year.

Have you paid your 1944 dues?

L. H. JACOB, secretary,
Illinois State Dental Society

CURRENT NEWS AND COMMENT

946 CONTRIBUTORS TO RELIEF FUND BY NOVEMBER 30

The names of those members of the Illinois State Dental Society who had contributed to the Relief Fund Drive of the American Dental Association up to and including November 30 will be found in the list given below.

George W. Hax, chairman for the drive in the state society, said that the total amount of $1,500.18 was an excellent beginning and that if the contributions continued Illinois would be able to raise its per capita from the fifty-four cents made last year in the drive.

The names of contributors received subsequent to November 30 will appear in the February issue of the JOURNAL along with a comparison of the previous year's campaign.

G. V. Black $49.00

Baldwin, C. M.
Blanchard, R. R.
Blunk, R. E.
Bradley, R. H.
Branom, W. L.
Bunch, J. R.
Converse, A. E.
Curren, Maj. R. T.
Dixon, J. L.
Ellis, H. O.
Forestner, J. J.
Fullenwider, H. D.
Grafton, C. W.
Green, J. W.
Griebler, J. R.
Halbert, L. V.
Hammond, H. F.
Hoblit, S. G.
Hubbard, E. D.
Lambert, J. L.
Layman, H. S.
Maxwell, C. G.
McDougall, C. D.
Oehler, G. E.
Scherer, W. H.
Sihler, A. E.
Strange, E. B.
Sunkel, H. C.
Walty, R. L. and 1st Lt. L. R.
Yates, J. T.

Champaign-Danville $28.00

Akerly, G. W.
Bechtol, C. M.
Busch, C. C.
Bush, A. K.
Conkey, F. M.
Dunn, L. P.
Ebert, F. E.
Foster, H. S.
Higgason, J. C.
Hindman, H. A.
Honey, J. P.
Krabbe, Maj. N. J.
Martin, B.
McCann, G. C.
Pixley, R. E.
Puterbaugh, C. H.
Roddon, J. J.
Rose, F. M.
Ross, B. C.
Vaught, W. W.
Waxler, W. R.
Wilson, J. D.

Chicago $991.08

Addis, N.
Albright, B. E.
Alexander, H.
Anderson, A. G.
Anderson, A. V.
Anderson, R. A.
Applebaum, J. J.
Auerbach, B.
Bacon, L. A.
Baker, C. R.
Baker, E. G.
Bancherel, C. E.
Bassett, C. J.
Bates, Lt. J.
Baumann, E. W.
Bayly, G. F.
Bean, A. M.
Becker, L.
Beckett, J. M.
Beiger, M.
Berndt, A. W.
Bernet, W. A.
Beshoar, D. L.
Besic, F. C.
Biel, J. F.
Binder, S.
Bisewski, F. E.
Bishop, T. M.
Black, R. E.
Blackwell, R. E.
Block, B. B.
Bonar, J. H.
Booth, F. W.
Boothe, R. G.
Borland, L. C.
Bostlemann, C. A.
Boulger, E. P.
Brasmer, W. O.
Bremner, M. D. K.
Brennom, E. F.
Brevig, C. H. H.
Brevig, H. R. H.
Brewner, J. C.
Broadbent, D.
Brodie, A. G.
Bromberg, S. C.
Brooks, M. P.
Brown, E. G.
Brown, Fidelio
Bryant, L. F.
Buchner, E. M.
Buchner, H. J.
Burgess, H. W.
Burkhardt, W. G.
Burns, J. H.
Burns, J. J.
Burrill, D. Y.
Burrill, J. A.
Bushey, A. J.
Butkin, M. R.
Butt, H. J.
Cahill, L.
Campbell, A. W.
Carle, N. B.
Carlson, H. C.
Cartwright, G. E.
Casserly, G. J.
Cavanaugh, T. P.
Chambers, J. W.
Chapman, H.
Christopher, G. L.
Cibock, C. E.
Cibock, L. M.
Cigrand, A. N.
Cislak, J. S.
Clark, J. S.
Clarke, S. W.
Clendenen, I. B.
Coffey, C. J.
Cole, S. Z.
Colum, H. S.
Conklin, F. G.
Coolidge, E. D.
Cooney, F. M.
Cooper, B. J.
Cornwell, H. J.
Cotter, S. W.
Crowe, C. W.
Cruse, M.
Cultra, V. E.
Cumback, O. S.
Cupis, B. A.
Curtiss, F.
Cusick, W. A.
Dahlberg, A. A.
Davidson, B. P.
Davies, C. H.
Davy, O. B.
Davy, R. R.
Dawson, D. R.
Deach, N. M.
Denton, A. M.
Deutsch, S. Q.
Dewel, B. F.
Dittmer, C. K.
Donlevy, F. D.
Dow, A.
Dralle, C. H.
Dressel, H. G.
Drues, L. N.
Dundon, W. E.
Dunn, E. L.
Dunn, H.
Dunn, H. G.
Dunn, J. A.
Dunn, R. W.
Dvorak, C. W.
Dvorak, L. J.
Dybdahl, J. M.
Edmunds, V. D.
Eggers, W. W.
Eisenstein, J.
Elfenbaum, H. N.
Elliot, E. W.
Elliott, N. M.
Epstein, H. H.
Ericson, M. G.
Evans, W. M.
Falkenstein, E.
Fehr, H. F.
Ferkel, L.
Ferm, J. W.
Fink, H. R.
Fisher, W. L.
Fleming, T. E.
Flick, G. W.
Folkers, C. E.
Fonda, J. E.
Ford, J. W.
Forslund, C. W.

Francel, O. G.
Frankel, D. A.
Freeman, C. W.
Frey, A. H.
Frey, L. J.
Fried, J. A.
Fritsch, E. D.
Furlan, A.
Gagnon, E. J.
Galanos, D. T.
Gallagher, E.
Gallie, D. M.
Gasior, T. A.
Gilbert, E. A.
Glantz, O. H.
Goetz, O. A.
Golding, L. E.
Goldstein, A.
Gomberg, J.
Gorecki, V.
Gorny, S. S.
Gould, G.
Graffin, L. P.
Graham, E. E.
Gratzinger, M.
Gresens, W.
Grimes, P. D.
Grimson, J. S.
Grimson, L.
Gronholm, V. T.
Grover, J. G.
Gruener, J.
Grunt, N. J.
Gumpel, A. W.
Haley, G. W.
Halper, L.
Hamachek, S. O.
Hamel, Capt. F.
Handler, E. D.
Hansen, H. O.
Hanson, C. A.
Hanson, J. T.
Hare, D.
Harnick, H. M.
Harrigan, R. J.
Harris, M. N.
Harunaga, Y.
Harwood, E. E.
Hauff, J. G.
Hawkins, O. I.
Hax, G. W.
Hayes, H. H.
Heamon, C. C.
Heilemann, G. G.
Hein, L. F.
Heller, J. F.
Hendrickson, D.
Henson, Capt. K. J.
Henson, M. S.
Herzberg, B. L.
Hess, F. G.
Heyboer, G. J.
Higgins, J. A.
Hillenbrand, G.
Hillenbrand, H.
Hillier, C. W.
Hines, H. B.
Hochman, G.
Hodgman, D. M.
Hoeffel, P. H.
Hoffman, A. F.
Hoffman, C. P.
Holland, J. F.
Holt, L. C.
Hood, F. A.
Horevitz, L.
Horowitz, N.
Hospers, F. J.
Hospers, J. H.
Hrusa, M. J.
Huff, R. E.
Hughes, L. W.
Hultgren, H. G.
Humble, T. W.
Humphrey, R. I.
Hunley, H.
Huntington, R. E.
Hurlstone, F. J.
Hyman, B. H.
Ibbotson, E. H.
Idler, P. B. D.
Irish, E. L.
Isay, M. G.
Jackson, E. G.
Jaffe, H. J.
Jaffe, R. L.
Jager, E.
James, A. F.
Jelinek, L. E.
Jentzsch, R. A.
Jerbi, F. C.
Jindrich, E.
Jirka, R. H.
Johannes, G. C.
John, J. D.
Johnson, A. L.
Johnson, H. M.
Johnson, T. E.
Johnson, W.
Jones, S.
Jostes, B. H.
Kanchier, P.
Kargau, H.
Kasalovsky, B.
Kaufman, L. E.
Keith, J. H.
Keith, R. P.
Kelley, J. A.
Kellogg, J. S.
Kelly, E. B.
Kirby, E. B.
Kirby, W. N.
Kirchen, J. A.
Kirschner, N. A.
Klaudt, H. R.
Klebansky, A.
Knapp, G. G.
Knapp, L. A.
Kobrzynski, J. P.
Koch, L. M.
Kodl, J. A.
Kolar, G.
Koppel, S. M.
Korol, S.
Krejci, E. J.
Kreiner, R. L.
Kremer, L. W.
Krohn, B.
Kuncl, A. C.
Kupfer, E. B.
Kuznetsky, S. H.
Lace, J. L.
LaDuca, J.
Laederach, W. E.
LaGrow, A. J.
Lampert, E. E.
Lane, J.
Lanser, M. T.
Larsen, O. C.
Larsen, R. A.
Lasater, R. L.
Lasker, H.
Lazear, D.
Leaf, A. W.
Leavitt, H.
Lebowitz, A. E.
Leesman, C.
LeGrand, J.
Lemke, S. A.
Leubke, E. W.
Levin, M. L.
Lieberman, M. J.
Lindmark, G. E.
Lindner, F. P.
Lister, C. S.
Long, Lt. J.
Long, M. E.
Lowy, W.
Luckhardt, A. B.
Luenzmann, C. A.
Luety, W. A.
Lydig, J. B.
Lyding, J. D.
Lynch, J. W.
MacIver, C. A.
Mack, G.
Mackey, J. M.
Mackey, L. J.
MacLennan, R. R.
Mahoney, W. D.
Maits, A.
Marchelya, A. W.
Marjerison, H.
Markus, S. A.
Marsan, E. R.
Mastrud, C. D. and A. F.
Mathews, R. T.
Mathis, D. F.
Matula, G.
Maxwell, G. H.
Mayeau, M. J.
McCarthy, T. J.
McClintock, T. C.
McEwen, D. W.
McGuire, J. C.
McGuire, J. C., Jr.
McKean, H. J.
McNamara, D. J.
McNamara, L. W.
McParland, L. P.
Meis, W. A.
Mershimer, J. D.
Miller, G. M.
Miller, I. C.
Mills, T. O.
Milstead, J.
Misher, K. W.
Morange, R. M.
Mueller, A.
Mueller, E.
Mundell, R. B.
Mullen, G. C.
Mullin, W.
Multon, C. L.
Murray, W. A.
Nathan, B. R.
Nedved, H.
Nemmers, E. G.
Newberger, A. D.
Newell, M.
Neymark, D. C.
Nickolas, J.
Nicholas, R. E.
Nock, W. J.
Nortell, H.
Noyes, F. B.
Nylander, V. T.
Nyman, J.
Nymark, F.
Oaf, I. G.
Olafsson, O. J.
Oldaker, J. L.
Oleksy, E. J.
Olshan, J. H.
Oppice, H. W.
Orban, B.
Owen, J. S.
Padden, L. B.
Pagel, A. F.
Pearce, J. H.
Pearlman, A. J.
Person, A. G.
Peters, G. A.
Pett, J. D.
Pfordresher, A. G.
Phillips, H. M.
Phillips, L. G.
Pincus, M. J.
Pinney, H. B.
Plants, J. F.
Plewa, J. E.
Pollock, R. J.
Pomerance, I. S.
Postels, G. G.
Potocki, E. R.
Potter, D. C.
Poyer, W. T.
Prugh, E. A.
Pulley, J. E.
Rabishaw, S. B.
Rago, M. F.
Randall, C. S.
Reeb, C. A.
Reed, F. D.
Reinholtzen, E. A.
Rence, J. H.
Rendtorff, H. K.
Ridley, S. R.
Rimmerman, A.
Ritter, J. W.
Robertson, D. P.
Rome, H. C.
Romnes, A. F.
Rorer, C. G.
Rosenberg, S. H.
Rowland, L. T.
Rubens, S. L.
Rudder, R. C.
Rund, J.
Runzio, J. D.
Rusch, W. E.
Ryan, A. C.
Ryan, E. J.
Ryan, L. L.
Sachs, S. C.
Salisbury, T. F.
Salvino, J. T.
Salzman, H. L.
Sarnat, J. H.
Sauer, A.
Saylor, J. E.
Sayre, L. D.
Schaffner, J.
Schnedier, M.
Schnell, T. W.
Schock, G.
Schoen, W. P., Jr.
Schour, I.
Schroeder, G. F.
Schroeder, P. W.
Schroeder, S. C.
Schubert, A. A.
Schulze, R. W.
Schwartz, M. D.
Seal, H. R.
Seaman, R. N.
Segal, M.
Sells, A. J.
Serritella, W. J.
Shanoff, S. M.
Shapiro, C. A.
Shelley, L.
Shepard, H. B.
Shimandle, E. A.
Shenberger, Capt. D. C.
Sherry, J.
Shippee, W. E.
Silver, P. R.
Simmons, A. L.
Simon, C. E.
Skinner, G. B.
Skowron, C. J.
Sladek, F.
Sleeter, V. R.
Smith, H. A.
Smith, W.
Smothers, I. A.
Snyder, H. C.
Soeder, F. A.
Solfronk, G.
Sommerfield, Lt. C.
Sommerfield, O. E.
Sone, W. J.
Soucek, E.
Spencer, P. G.
Spira, J.

Spitz, O.
Spratka, G. B.
Stark, B. E.
Stasinski, H. A.
Stephenson, L. V.
Stewart, O. M.
Stine, C. F.
Stordock, P. G.
Stransky, I. M.
Strilky, M. D.
Strong, L. W.
Strong, L. W., Jr.
Stulga, A. P.
Sussman, H. G.
Sutcher, W. C.
Swanson, E. W.
Swanson, M. G.
Swanson, W. W.
Swatek, E.
Swierczek, A.
Tark, L. A.
Terry, C. R.
Teuscher, G. W.
Tharp, E. B.
Tharp, H. J.
Thompson, D. J.
Tilden, M. C.
Tilley, G. J.
Tourek, G.
Trangmar, F. M.
Trayer, F. A.
Treacy, J. W.
Trompen, A. N.
Trude, M. W.
Tuessle, A. H.
Tuveson, N.
Ulis, J. C.
Ulvestad, G. E.
Upson, G. D.
Urbanck, J.
Urelius, R.
Verne, H. M.
Vinikour, B.
Vita, V. J.
Voelker, E. C.
Wagner, A. G.
Wagner, R. H.
Wakefield, G. L.
Walden, W.
Warczak, B. J.
Warfield, E. C.
Warren, R. N.
Washburn, K. C.
Waterman, C. E.
Waxler, A. E.
Wcislo, A.
Webb, E. W.
Webb, W. M.
Weber, R. A.
Webster, C. J.
Wedell, H. G.
Weinberg, L.
Weinfield, H.
Welch, H. W.
Welk, G. H.
West, C. C.
Westaby, H. P.
Westgard, G. K.
Wexler, A. L.
Whitbread, K. E.
White, L. J.
White, T.
Whitfield, R. H.
Wicklund, W. G.
Wiegel, R. E.
Wienfield, F.
Wilcox, Paul
Wilder, R. E.
Williams, G. H.
Williams, R. S.
Williams, W. I.
Willman, W.
Wilneff, M.
Wilson, R. M.
Wiman, L.
Windheim, O. W.
Wood, A. H.
Woodlock, D. M.
Woods, F. N.
Wright, T. R.
Wroblewski, E. J.
Wyckoff, P. H.
Zielinski, J. M.

Decatur $28.00

Bachman, H. P.
Berryhill, P. B.
Boys, J. W.
Boys, N. D.
Cassell, C. L.
Dodd, L. H.
Dowell, B. F.
Elslager, H. H.
Evans, E. T.
Foster, H. H.
Freidinger, H. L.
Hastings, H. M.
Horr, E. C.
Kerr, E. H.
Landers, P. H.
Martin, J. A.
McGowan, E.
Mooney, M. L.
Schiltz, A. F.
Taylor, C. S.
Tedrow, B. H.
Waltz, J. F. F.
Watters, H. W.
Winter, W.

Eastern Illinois $20.00

Baughman, H. A.
Butler, D. M.
Cretors, E. D.
Davison, R. L.
Gonwa, W. J.
Hickman, E. H.
Jones, E. E.
Kennedy, G. L.
Lossman, M. F.
Lump, H. C.
Phillips, J. A.
Ruff, G. O.
Sunderman, W. E.
Trexler, B. C.
Tym, W. B.
Woods, F. R.

Fox River Valley $44.00

Adams, J. M.
Blackman, L. C.
Cigrand, E. F.
Crothers, A. B.
Currier, C. P.
Downs, W. B.
Edwards, R. R.
Fitzpatrick, T. A.
Hill, L. L.
Hoerner, H. J.
Kellam, C. H.
Konrad, A. J.
Lunak, K. V.
Miller, E. G.
Miller, F. G.
Miller, R. C.
Nystuen, P. C.
Ogilvie, N. M.
Roberts, A. L.
Rovelstad, H. R.
Sharp, B. R.
Smith, H. E.
Stahl, I. J.
Steele, J. A.
Underwood, P. B.
Wasson, J. S.
Wilson, G. W.

T. L. Gilmer $15.00

Farwell, H. R.
Hufnagel, O. S.
Hurde, O. N.
Jackson, C. P.
Keeney, J. F.
Kibler, O. B.
King, W. L.
Leavitt, R. W.
Litvan, L. J.
Naumann, H. F.
McLellan, R. W.
Thesen, R. H.

Kankakee $3.00

Bevan, F. W.
Squires, R. E.

Knox $5.00

Burcky, L. C.
Fleming, C. L.
Helmer, P. A.
Olson, M. W.
Swain, H. D.

LaSalle $21.00

Black, H. E.
Blakeslee, F.
Burt, H. C.
Carroll, W. P.
Clark, T. R.
Daugherty, W. P.
Fellows, E. W.
Hutchinson, F. M.
Kelly, M. M.
Kolm, F. F.
Lehman, K. G.
Maras, J. J.
Piscitelli, V. J.
Purcell, W. M.
Riegel, H. J.
Roberts, A. L.
Tesche, C. Ray
Vespa, N. J.

Madison $31.00

Allen, S. H.
Brandhorst, A. W.
Ellis, G. V.
Emons, W. W.
Harrison, C. W.
Hausmann, C. R.
Hemphill, C. J.
Hopkins, F. C.
Hopkins, R. E.
Kane, F. M.
Kapp, J. A.
Krekeler, E. H.
Levi, H. H.
Linder, F. E.
Mahoney, J. E.
Maley, P. A.
Murphy, J. T.
Stephenson, H. W.
Vedder, N. D.
Walter, F. L.
Witthofft, W. F.

McLean $17.00

Alcorn, C. A.
Babcock, H. W.
Beadles, E. L.
Chrisman, E. W.
Fitz-Henry, D. F.
Holub, J. J.
Kasber, J. W.
Miller, F. H.
Muzzy, L. B.
Orendorff, A. G.
Peterson, A. W.
Shaddle, C. G.
Wilcox, B. A.

Northwest $31.00

Alzeno, G. E.
Breyer, P. M.
Goldthorpe, C. C.
Gouse, M. H.
Hill, O. D.
Hoy, H. H.
Neidigh, S. R.
Place, E. H.
Place, W. H.
Russell, W. R.
Seise, J. G.
Snyder, C. L.
Taggart, E. E.
Trader, M. I.
Thomas, E. S.
Tyler, B. S.
Van Lone, W. D.

Peoria $61.00

Applebaumn, A.
Barclay, H. F.
Bayne, W. L.
Blumenschein, J. P.
Bollinger, C. E.
Burke, J. F.
Chamberlain, C. E.
Check, F. J.
Clopper, P.
Clymore, D. B.
Fraser, D. H.
Garrett, S. M.
Geiger, E. D.
Harsch, B. T.
Hermon, C. S.
Jacob, L. H.
Jones, E. C.
Litwiller, O. B.
McDonough, A. L.
Mueri, H. K.
Nielsen, J. P.
Otten, H.
Paul J.
Phillips, S. E.
Rodenhauser, W. R.
Schmidt, R. L.
Schulte, J. B.
Shawgo, C. H.
Sherherd, C. E.
Simmons, M. E.
Smith, C. M.
Smith, D. G.
Smith, T. T.
Strong, L. L.
Uppendahl, F. N.
Wallace, E. H.
Weidner, J. W.
Westphal, F. M.
Willett, R. C.
Wiltz, O. P.
Winget, W. B.

Rock Island $24.00

Albright, H. A.
Baker, A. C.
Covell, G. M.

Criswell, R. M.
David, G. L.
Glawe, A. E.
Gluesing, J.
Hainline, F. A.
Helpenstell, F. M.
Hinman, R. B.
Johnson, Maj. K. R.
King, E. W.
Kuttler, F.
Kuttler, F. C.
Morton, I. I.
Motz, C. W.
Nichols, J. H.
Parks, G. A.
Sherrard, B. H.
Vermeulen, F. J.
Wiggins, S. A.
Zeigler, H. A.

Southern Illinois $22.10

Andrews, Van
Birkner, C. E.
Bost, E. J.
Burkhardt, R.
Causer, J. H.
Fry, H. M.
Johnson, O. E.
Johnson, W. F.
Lence, W. H.
Lumbattis, M. M.
Lyday, E. F.
McKee, W. A.
Moreland, H. A.
Pickard, J. L.
Setzekorn, W. E.
Walser, C. R.
Williams, W. E.
Willis, H. W.

St. Clair $31.00

Allen, W. A.
Buck, W. L.
Conaty, L.
Feder, N. H.
Feder, P. J.
Garrison, Maj. G.
Glenn, C. L.
Hennrich, R. C.
Hobbs, G. J.
Hood, K. F.
Hough, C. R.
Hundley, R. A.
Kolb, R. C.
Kuhn, F. M.
McCullough, J.
Redpath, R. W.
Rendleman, J. W.
Rinnert, K. M.
Schroeder, F. W.
Smith, J. W.
Smith, W. C.
Winkler, T. J.

Wabash $7.00

Baily, F. C.
Craeg, E. C.
Griffith, J. J.
Hardy, J. W.
McGahey, L. E.

Warren $4.00

Campbell, C. D.
Elder, P. W.
Knights, E. B.
McMillan, H. W.

Whiteside-Lee $12.00

Acton, H. L.
Blanchard, K. E.
Danreiter, C. P.
Davis, J. D.
Kindt, W. H.
Marshall, J. A.
Nelson, G. W.
Nelson, M. R.

Will-Grundy $15.00

Benson, R. C.
Connors, J. T.
Drenning, E.
Fischer, F. G.
Harrison, A. G.
Hoge, D. H.
McKinley, C. W.
Wallace, J. E.
Young, G. W.

Winnebago $41.00

Boyle, P. O.
Clothier, E. J.
Coggeshall, R. J.
Cole, C. C.
Crossan, O. A.
Harrison, J. A.
Higgins, T. E.
Hoffman, A. A.
Hopkins, J. A.
Johnson, H. G.
Johnson, H. L.
Lamphere, G.
Lawrence, A. H.
Mead, E. C.
Mead, F. L.
Minshall, L. K.
Morris, E. B.
Olson, A. N.
Pokorney, J. W.
Reed, C. D.
Shipley, J.
Spafford, E. A.
Sullivan, E. F.
Veline, A. H.
Weld, F. A.
Witherstine, E. J.

PROCUREMENT OF DENTISTS FOR ARMY CEASES

The following announcement from the Procurement and Assignment Service of the War Manpower Commission was released on December 9 to all state dental chairmen of Procurement and Assignment.

The Surgeon General of the army has this date, December 9, 1943, informed this office that procurement for the army of dentists from civil practice has ceased. However, all cases actually in process for commissions will be completed. Therefore, do not refer any more dentists to the Army Procurement Office until further notice.

This does not mean the recruitment has stopped, because the navy needs many more dental officers from civilian life. Therefore, continue providing available dentists and refer all names to the navy procurement office and to the central office so that invitations and availability clearances can be prepared in the usual manner.

You will be notified when and if the navy procurement ceases.

C.C.D.S. GRADUATE DIES IN JAP PRISON CAMP

Lt. (jg) Robert G. Herthneck, who was graduated from the Chicago College of Dental Surgery, School of Dentistry, Loyola University in 1940, died in a Japanese prison camp on October 4 according to a Red Cross report.

Lt. Herthneck was commissioned in the navy in 1941 and, after being stationed at Annapolis, was sent to Manila in August of that year. He was taken prisoner on Corregidor.

He was a member of Alpha Sigmu Nu and Omicron Upsilon honorary fraternities and held the offices of scribe and worthy master in Delta Sigma Delta fraternity.

A.D.A. HEALTH COUNCIL MAKES PLEA FOR VICTORY CORPS

How dentists in private practice can contribute to the war effort without as much as leaving their offices is told by the Victory Dental Program Committee, Council on Dental Health of the American Dental Association. The civilian dentist can help to increase the physical fitness of the war manpower right at the dental chair by giving priority appointments to boys and girls in the upper

high school grades who will shortly be entering the armed forces or necessary war industries.

A nation-wide Physical Fitness Dental Program is now being conducted by the Council on Dental Health with the cooperation of the United States Office of Education and the United States Public Health Service. A recent issue of *Education for Victory,* the official publication of the United States Office of Education, carries a leading article in which dental care is stressed as an important aim of education in wartime. Educators and school health workers are called on to support the dental fitness program as one of the essentials in the Victory Corps and Physical Fitness Programs now operating in the various states and local communities.

This program presents a striking example of the cooperation of organized dentistry with federal and state health and educational agencies and is a direct challenge to the private dentist on the home front. Many dentists in private practice are finding themselves hard pressed to keep up with the demands of patients for service. The induction of dentists into the armed services has left many communities without private practitioners in the face of increased demand and population shifts due to war activity.

The civilian dentist, no matter how pressed by adult patients, owes it to himself as a professional man to give priority appointments to high school boys and girls who will soon be helping, directly or indirectly, to fight the war in which their country is engaged. How well dentists respond to this urgent call will do much to determine the professional regard shown them by these government agencies in the future.

This program presents a splendid opportunity for the dentist at home who has been wondering how he can help to contribute to the war effort. Here is a job which the dentist alone can do. He can make dentally fit, and thus more efficient, the young men and young women who are about to take up the burdens of war. This is your job. Are you going to accept this challenge?

Educators and health workers in more than forty states are cooperating. If your local community needs assistance in carrying on the Victory Corps Physical Fitness Dental Program write at once for information to the director of the state dental program in the state department of health, the chairman of the Council on Dental Health of the state dental society or to the Bureau of Public Relations, American Dental Association, 222 East Superior Street, Chicago, Illinois.

CHICAGO DENTAL ASSISTANTS ASSOCIATION MEETS JANUARY 13

Dr. Lon W. Morrey, director of the Bureau of Public Relations of the American Dental Association, will speak on "Dental Health Education in the Office" at the meeting of the Chicago Dental Assistants Association on January 13 in room 529 of the Pittsfield Building.—*Mildred Rinn, publicity chairman.*

DENTAL COMPANY ORDERED TO PAY BACK WAGES

The Dental Products Company, of Chicago, was ordered on December 27 by Judge Philip L. Sullivan of the Federal District Court to pay $2,254 in back wages to its employees and to comply with the Wages and Hours Act. The Department of Commerce charged that the company paid less than forty cents an hour in wages and also failed to pay time and one-half for overtime. Forty-one employees were involved.

CHICAGO DENTIST CITED IN MARINE DISPATCH

Lt. Evert A. Archer, of Chicago, has been cited in a recent dispatch from a Marine Corps combat correspondent for his work in establishing a hospital under most adverse conditions on Bougainville Island in the Solomons.

The operating "room" of the hospital is in a square dugout three feet deep with sand bags stacked around the edges

of the covering tent. In the first seven days of operation, the hospital treated 115 men of whom only two died.

Lt. Archer was graduated from the Chicago College of Dental Surgery, School of Dentistry, Loyola University in 1938 and became a member of the Illinois State Dental Society through the Chicago component in 1939. Until his entrance into service in February 1942 he practiced with Earl E. Graham, of Chicago. He has been in the South Pacific since early in 1943.

RED CROSS REPORTS ON YEAR'S ACTIVITIES

The American Red Cross has issued the following report on the organization's activities during the past year.

The passing of 1943 marks the close of the busiest Red Cross year in history. People the world over have been affected by Red Cross activities.

The American Red Cross, which is but one of more than sixty national societies, this past year has tackled every type of job. Abroad and at home, on the war front and in training camps, it has served the armed forces faithfully. And, despite this tremendous task, it has equally served civilians in many parts of this war-ravaged world.

The Red Cross Blood Donor Service, which collected more than 4,000,000 donations, provided help in saving the lives of thousands of our wounded. Further, the Red Cross enrolled 27,600 nurses for the army and navy, while volunteers representing every nationality group in the United States prepared the gigantic total of 925,000,000 surgical dressings. The Red Cross also packed and shipped some 6,000,000 food parcels for distribution to American and United Nations prisoners of war and 160,000 parcels for convalescent prisoners.

For able-bodied fighting men the Red Cross has provided clubs and recreation centers overseas. With all military and naval units, at home and abroad, are trained representatives who, through wise and human counsel and action, help those men who are faced with personal and family problems.

The Red Cross Home Service Inquiry Unit, during a recent fifteen-month period, handled 383,299 messages to, and inquiries concerning, relatives in war-devastated regions. During the same time the unit took care of 353,634 similar messages and inquiries received from abroad. Countries of origin and destination were Albania, Belgium, Luxemburg, Bulgaria, China, Czechoslovakia, Denmark, Finland, France, Germany, Greece, Holland, Hungary, Italy, Japan, Latvia, Estonia, Lithuania, Norway, Palestine, Syria, Poland, Roumania, Russia, Sweden, Switzerland and Yugoslavia.

War relief for civilian refugees was continued in the past year, food, clothing, soap and other supplies going to Russia, North Africa, Middle Eastern and certain occupied countries. Since the outbreak of war in September 1939, the total value of civilian war relief furnished by and through the American Red Cross has aggregated more than $77,000,000.

On the home front Red Cross instructors trained 400,000 women in home nursing, taught first aid to 1,500,000, and swimming and water rescue to an additional 300,000 persons. Last but not least, volunteers made 12,000,000 garments for use at home and abroad.

RENEWAL OF SUBSCRIPTIONS FOR ORAL SURGERY JOURNAL DUE

Renewal of subscriptions to the *Journal of Oral Surgery* are now due. Check for five dollars should be sent to the American Dental Association, 222 East Superior Street, Chicago 11.

"SAGEBRUSH DENTIST" DIES IN CHICAGO

Dr. Will Frackelton, of Sheridan, Wyoming, died at St. Francis hospital, Evanston on December 28. Dr. Frackelton earned the title of "sagebrush dentist" through his activities as a dentist in the West. Buffalo Bill Cody, Calamity Jane and other characters of the old West were among his patients. His book, "Sagebrush Dentist,"[1] was a lively report of his years as a "sagebrush dentist."

He was 74 years old at the time of his death. Burial was in Sheridan, Wyoming.

TRAFFIC DEATHS DECLINE 5,000 UNDER YEAR AGO

The National Safety Council estimated 1943 traffic deaths in the United States at 23,000, a drop of 20 per cent from the 1942 total and at least 40 per

[1] *Ill. D. J.* 10:336 (Aug.) 1941.

cent below the pre-war total of 1941, according to a report issued December 30. The announcement said this represents a saving of 5,000 lives over last year and almost 17,000 over 1941.

Despite all-year reductions, the toll went up in November for the second successive month. The November increase over the same month in 1942 was 3 per cent, but in October the rise amounted to 19 per cent. November traffic deaths totaled 2,350 against 2,280 a year ago. The November toll, however, was 40 per cent below the same month in 1941.

Mileage and death figures for the first ten months of 1943, compared with the same period in the unrestricted pre-war year of 1941, show that, with the exception of January, the decrease in traffic deaths has exceeded the drop in travel.

K. R. COFIELD PROMOTED TO LIEUTENANT COLONEL

Kenneth R. Cofield, liaison officer between the Surgeon General's Office and the American Dental Association, has been promoted to lieutenant colonel in the army dental corps and made chief

Col. Kenneth R. Cofield

of the dental service of the Gardiner General hospital in Chicago. Col. Cofield will continue at the A.D.A. offices in addition to his new duties. He has been stationed at the Central Office of the A.D.A. for the past eighteen months.

ALPHA OMEGA PLANS FOR CHICAGO MEETING

Alpha Omega fraternity will maintain headquarters at the Palmer House during the Midwinter meeting of the Chicago Dental Society February 21-23. The annual pre-convention dinner will be held on February 20 in the Hollywood Room at the Morrison hotel.—*Eugene S. Aron, secretary.*

CHICAGO MEETING PROGRAM PRACTICALLY COMPLETED

The program for the annual Midwinter meeting of the Chicago Dental Society to be held at the Palmer House in Chicago February 21-23 has practically been completed.

The Question and Answer periods which proved so successful at last year's meeting have been enlarged. This portion of the program has been tentatively arranged with the following subjects and leaders: *operative dentistry:* LeRoy Hartman, of New York, Leon Saks, of Cincinnati, W. A. Link, of Chicago, Leo S. Seidner, of Chicago, J. R. Blayney, of Chicago, Robert G. Kesel, of Chicago and John H. Hostler, of Chicago; *periodontia:* Maj. Joseph L. Bernier, of Camp Polk, Louisiana, David N. McLean, of San Marino, California, Clarence O. Simpson, of St. Louis, Charles H. M. Williams, of Toronto, M. K. Hine, of Chicago and Edgar D. Coolidge, of Chicago; *orthodontia in children's dentistry:* Frederick B. Noyes, of Chicago, A. G. Brodie, of Chicago, L. B. Higley, of Iowa City, Iowa, Walter T. McFall, of Asheville, S. J. Kloehn, of Appleton, Wisconsin; *crown and bridge:* Loren D. Sayre, of Chicago, Charles S. Cuden, of Pittsburgh and W. I. McNeil, of Chicago; *oral surgery:* Harry Sicher, M.D., of Chicago, Maury Massler, of Chicago, Berto A. Olson, of Hollywood, California, Stanley W. Clark, of Chicago, Douglas Parker, of New York and Earle H. Thomas, of Chicago; *full dentures:* Walter D. Raber, of Chicago, E. G. Lang, of

New Ulm, Minnesota, R. R. Gillis, of Hammond, Indiana, James H. Pearce, of Chicago, John B. LaDue, of Chicago and John A. Wolfer, of Chicago.

Dental officers from nearby army posts and navy stations will help to offset the scarcity of table clinics.

Other dentists who will participate in the general program are: Lloyd H. Dodd, of Decatur, Elsie Gerlach, of Chicago, Charles S. Kresnoff, of Chicago, S. H. Goodfriend, of Chicago, Robert N. Tanis, of Chicago, T. M. Bishop, of Chicago, A. H. Tamarin, of Chicago, Grant V. Newby, of Plattsville, Wisconsin, Henry Wilber, of Omaha, Nebraska, Ralph Rosen, of St. Louis, Robert A. Dean, of Minneapolis, A. W. Maier, of Chicago, B. H. Johnson, of Nashville, Samuel Granof, of Milwaukee, John H. Marre, of St. Louis, Edward Reiter, of Cleveland, F. H. Wittenbrook, of Lima, Ohio, Ralph N. Sappe, of Chicago, R. R. Blanchard, of Springfield, John H. Yates, of Indianapolis, R. W. Wade, of Hammond, Indiana, George L. Kennedy, of Villa Grove and Frank G. Young, J. M. Hirsch and R. W. Covalt, all of Chicago.

The Horace Wells Centenary will be observed on the opening day of the meeting. E. W. Clifford, of Hartford, Connecticut, a member of the A.D.A. committee, will address the general session to be held in the evening. The remainder of the evening meeting will be given over to the reading of the winning paper in the Third Annual Prize Essay Contest.

A round-table discussion of the Wagner-Murray-Dingell bill will be held during the meeting. Joseph D. Lohman, of the University of Chicago, will speak in favor of the proposed legislation and Harold Hillenbrand, editor of the Mid-Monthly issue of the *Journal of the American Dental Association*, will talk in opposition to the bill. Edward J. Ryan, of Evanston, will act as presiding officer.

A motion picture program, exhibits, both scientific and commercial, will fill out the balance of the meeting program.

PAPER SHORTAGE BECOMES ACUTE

Growing demands for all paper and paper products while supplies continue to dwindle give rise currently to a paper shortage which threatens to become critical during 1944 unless the pulpwood situation can be improved. An especially tight supply situation now exists in paperboard including container board, newsprint and wrapping paper.

The shortage originates primarily in cut wood for making woodpulp. Pulp and paper manufacturing facilities and supplies of standing timber are adequate, but forest manpower is very scarce. August pulpwood deliveries were above July, but substantially below 1941 and 1942 amounts. Victory pulpwood campaigns in the pulpwood producing states, notably Michigan and Wisconsin, are expected to increase the supply of wood during the winter. All possible producers of pulpwood are being enlisted to meet the need, including farmers and owners of small timber tracts. Some state and federal mature timber lands in Wisconsin where cutting rights have been obtained will soon be used as a source of pulpwood.

The current salvage drive for waste paper as a supplementary source of wood pulp is meeting with only moderate success. About 35 per cent of the estimated available waste paper is being saved for re-use. One important reason why the campaign has not received wholehearted response is that during the similar campaign in 1941-1942 a greater supply was collected than paper mills using waste paper were able to absorb. WPB officials state that there is no possibility, at least in the near future, that a waste paper glut will again occur. The OPA is making a drive against "a serious black market in waste paper" caused by apparent violations of price ceilings which are unchanged from those used in bringing in the heavy tonnage during the 1941-1942 drive. Maximum reuse of all types of shipping containers is strongly urged.

THE NOTEBOOK

Sulfathiazole in Fusospirochetal Infections of Mouth and Throat.—According to Hirsch and Spingarn, infections of the mouth and throat with the fusospirochetal group of bacteria are encountered frequently in military medicine. In the first world war they were common among the enlisted personnel, especially under field conditions, and were known as "trench mouth." The causative organisms are present in small numbers as harmless saprophytes in many normal mouths, but they may become pathogenic in the presence of predisposing conditions such as trauma to the oral mucosa by neglect of the hygienic care of the mouth and teeth and a lowering of the general health and resistance. The disease may take several forms. Commonly one encounters (*a*) gingivitis, marked by numerous ulcerations of the peridental tissues with reddening and swelling of the gums, which bleed easily, and (*b*) angina, characterized by ulcerations of the tonsils and pharynx. A variety of therapeutic agents have been used to treat infections of this type. This series consists of 8 young men with fusospirochetal disease of the mouth or throat. Moderate doses of sulfathiazole (4 Gm. daily) for periods of two to six days were effective in controlling fusospirochetal infections of the mouth and throat. This therapy is well tolerated and produces a prompt relief of symptoms and healing of the lesions. The treatment has the advantages of simplicity and speed.—Hirsch, F. G. and Spingarn, C. L. Treatment of Fusospirochetal Infections of Mouth and Throat with Sulfathiazole. *M. J. Sur.* 93:299 (Sept.) 1943 via *J.A.M.A.* 123: 794 (Nov. 20) 1943.

Antistaphylococcic and Antistreptococcic Action of Penicillin.—The action of penicillin against Streptococcus hemolyticus and Staphylococcus aureus was studied by Rammelkamp and Keefer using whole defibrinated blood and serum. Whereas normal serum containing no penicillin presented no bactericidal action, whole blood had a slight antibacterial action, owing to the presence of phagocytic cells. Addition of 0.3 Florey unit of penicillin per cubic centimeter of whole blood resulted in a striking increase in the bactericidal action. This effect was not dependent on phagocytosis, since a similar action was observed in the serum on addition of the same amount of penicillin. The blood and serum withdrawn from normal subjects injected with 20,000 Florey units of penicillin exhibited a definite bactericidal and bacteriostatic effect against staphylococci and streptococci. The degree of antibacterial action observed in whole blood after the administration of penicillin was directly related to its concentration in the serum. As the concentration increased there was a rapid rise in the bactericidal power of the blood. Maximal action against Streptococcus haemolyticus was produced by concentrations of 0.019 to 0.156 Florey units per cubic centimeter of serum. Against Staphylococcus aureus maximal bacterial effect was exhibited by concentrations of at least 0.156 unit per cubic centimeter. The antistaphylococccic and antistreptococcic effect produced by adding or injecting sulfathiazole and sulfadiazine was compared to that of penicillin. The observations showed that both in vitro and in vivo the antistreptococcic action of whole blood containing only 0.07 unit of penicillin per cubic centimeter of serum is much greater than that of whole blood containing 5.1 mg. of sulfadiazine per hundred cubic centimeters of blood. Against Staphylococcus aureus sulfadiazine exhibited only a slight bacteriostatic effect at concentration of 5.1 mg. per hundred cubic centimeters, while pronounced antibacterial effect was observed by penicillin at concentration of 0.039 unit per cubic centimeter of serum.—Rammelkamp, C. H. and Keeper, C. S. Penicillin: Its Antibacterial Effect in Whole Blood and Serum for Hemolytic Streptococcus and Staphylococcus Aureus. *J. Clin. Invest.* 22:649 (Sept.) 1943.

Riboflavin Deficiency versus Perleche.—Nippert and McGinty point out that fissuring at the corners of the mouth is not always due to riboflavin deficiency. There is an intertrigo of the labial commissures, designated as perlèche ("to lick"), which may be mistaken for riboflavin deficiency. In children perlèche often develops because of an abnormal amount of moisture at the angles of the mouth, a condition resulting from the habit of licking. In adults the lesion is most frequently seen as a result of a narrowed bite, either because the natural teeth have been worn down or because of improperly fitting artificial dentures. The narrowed bite produces an additional fold at the labial commissures; the skin in this area then, because of constant moisture from saliva, becomes macerated, fissured and infected. Cheilosis of ariboflavinosis is usually accompanied by other signs of the

deficiency and is cured by an adequate consumption of riboflavin. The cheilosis of perlèche is relieved only by correcting the anatomic defect that resulted in the intertrigo; this will usually require new, well fitting dentures. Three cases are presented to illustrate the differential diagnosis.—Nippert, P. H. and McGinty, A. P. Riboflavin Deficiency versus Perlèche: Differential Diagnosis of Fissuring of Labial Commissures. *Ga. Med. A. J.* 32:295 (Sept.) 1943 via *J.A.M.A.* 123:793 (Nov. 20) 1943.

Ingestion of Fluoride and Dental Caries.—McClure calls attention to the recent discovery of the inhibitory effect of trace quantities of fluorine in drinking water on dental caries in children and young adults. The addition of flourine to children's diets during the first seven or eight years of life offers great promise of reducing the prevalence of dental caries. One part per million concentration of fluorine in drinking water is regarded as a permissible level. An estimated quantity of water borne fluorine equal to approximately 0.5 to 1 mg. of fluorine daily in the average diet from the first to the eighth year of life appears to be instrumental in reducing dental caries to a great degree. This small quantity of additional fluorine ingested during the comparatively few years of formative tooth life presents no health hazard. In certain communities the drinking water may contain fluorine naturally in a quantity equal to 1 part of fluorine per million. In these places a supplement of dietary fluorine would be undesirable. There is under consideration also the advisability of a direct fluorination of drinking water so as to provide an optimum quantity of fluorine for improved dental health. Only in communities in which the water supplies are either fluorine free or contain suboptimal amounts need serious consideration be given to the possible use of a supplement of fluorine in children's diets. Calculations of the quantity of supplemental fluorine required must take into account fluorine present naturally in the local water supply.—McClure, F. J. Ingestion of Fluoride and Dental Caries: Quantitative Relations Based on Food and Water Requirements of Children One to Twelve Years Old. *Am. J. Diseases of Children* 66:362 (Oct.) 1943.

Misuse of Intravenous Neoarsphenamine for Vincent's Infection.—Jewesbury points out that there still seems to be a fairly widespread impression that intravenous neoarsphenamine is the most potent method of treatment in severe cases of trench mouth or Vincent's infection. Occasional reports of Vincent's infection occurring in patients undergoing antisyphilitic treatment have cast doubt on the efficacy of intramuscular or intravenous arsenic administration in dealing with lesions of the mouth. The author cites histories of 2 men who developed Vincent's infection while undergoing neoarsphenamine treatment for syphilis. He feels that, if the drug is valueless prophylactically, skepticism as to its value as a single intravenous injection for Vincent's angina is even more justified. Treatment of Vincent's infection calls primarily for treatment of the underlying condition, whether it is local or general. Nutritional deficiencies must be remedied. Healing of the lesions in the mouth is best accomplished by daily local applications of 10 per cent chromic acid, followed immediately by hydrogen peroxide (10 vols.) and subsequent two hourly mouth washes of peroxide. This local treatment is particularly valuable when combined with 150 mg. of nicotinic acid daily by mouth. The author hopes that the employment of intravenous arsenical compounds for this condition will be recognized as useless and wasteful.—Jewesbury, E. C. O. Misuse of Intravenous Neoarsphenamine for Vincent's Infection. *Brit. Med. J.* 2:360 (Sept. 18) 1943.

Specifications for Inlay Wax.—Inlay wax is one of the variable materials which is used in the inlay process. Generally it contains carnuaba, paraffin, ceresin, beeswax, and oil soluble coloring material. These substances should be in such proportion that they will result in a wax with the following specifications established by the U. S. Bureau of Standards, in 1928. 1. The wax should soften without becoming flaky. 2. It should be sufficiently plastic at temperatures slightly above mouth temperature to permit forcing it into all the details of the cavity walls. 3. It should harden sufficiently at mouth temperature to permit withdrawal from the cavity without distortion. 4. It should carve without chipping or flaking. 5. The color should be such that it facilitates the carving in the mouth through contrast with the hard and soft tissues in the mouth. 6. It should burn out clean in the mold.—Thom, Lewis W. and Simon, William J. A Procedure of Direct Wax Manipulation For a Class II Cavity. *Minneapolis Dis. D. J.* 27: 195 (Dec.) 1943.

Treatment of Face Wounds.—The proper procedure which should be instituted in the treatment of wounds of the face is the careful removal of all severely traumatized tissue that is apparently non-vital. It has been pointed out that the number of bacteria present on the surface of a wound only six or eight hours old is quite small and shows that they are there as a result of contact and not from invasion of the part. Bacteria can be removed mechanically at this time by gentle, thorough cleans-

ing of the surface of the wound with sterile cotton and non-irritating soap and warm water.

Usually the sterile dressing as applied as an emergency measure is left over the wound until all of the skin surface has been thoroughly cleansed and sterilized around it. The common practice has been for the company aid man to dust the wound with sulfanilamide and immediately cover with a sterile dressing. The use of such agents as hydrogen peroxide is discouraged for it may be the means of forcing bacteria deeper into the tissues as well as causing the destruction of blood clots at the ends of the small vessels and promoting secondary hemorrhage. When the skin surface has been thoroughly cleaned, the area may be blocked or infiltrated with local anesthetic solution and then the wound surface and depth of the wound may be cleansed painlessly and completely.—Williams, Phillip E. Maxillo-Facial Surgery For Military Emergencies. *Tex. D. J.* 61:425 (Nov.) 1943.

Inlay Casting Failures.—Many casting failures are the result of improper handling of wax and failure to recognize its properties in order to obtain its full advantages in manipulation. To lessen the possibilities of distortion and flow, the wax should be heated slowly and throughout its mass. This is an important step in the process of obtaining a homogeneous wax pattern. Wax softened by direct contact with the flame is unevenly heated. When the wax is placed in the cavity under pressure the less plastic portion tends to set up strains of uneven force and consequently upon withdrawal of the patterns a certain amount of distortion occurs. The amount of distortion is lessened in proportion to the condition of homogenity of the mass of wax. The wax may be annealed and maintained in a plastic condition over long periods of time in a simply constructed chamber which will give a fairly constant temperature of 122° F. This temperature maintains the wax in its best condition for manipulation. An even pressure of not less than 1½ minutes while the wax is congealing and hardening in the cavity before release is important.—Keys, Donald A. Restorations With the Gold Inlay. *J. Neb. S. D. A.* 20:3 (Dec.) 1943.

Possible Dental Care Plan.—The value of one type of health insurance is evident in group hospitalization, the Blue Cross plan, which protects over one million people. In that Blue Cross plan lies the nucleus for a "Purple Cross Plan" for dentistry. Two great objections to insurance plans are (1) they tend to reduce all dental service to one level and (2) they remove the free choice of dentists. They may be overcome by the application of certain principles of the Blue Cross Plan. The president of the American System Company and the janitor in one of its factories may be equally insured in the Blue Cross Plan. Both may be taken ill and the janitor goes to Hospital A in a $4.50 semi-private room while the president goes into Hospital B in a $20 private room. When they are discharged from the hospitals each gets $4.50 per day paid by the insurance plan—in the case of the janitor this pays his entire bill and in the case of the president it pays less than one-fourth of his bill. The *needs* of both men were cared for and both received payments of the same amount in dollars and cents. A free choice of hospital and type service remained, limited to some degree by each man's purse. In applying this to dentistry it will be necessary to limit insurance to those enrolling while under sixteen years of age, but to carry them through life once they are insured, if their insurance is kept in force continuously. The individual should be entitled to all dental work deemed essential. Perhaps orthodontics and partial dentures might be omitted at first but added as the plan builds up a surplus. Such an expansion occurred in group hospitalization which has added allowable time per year in the hospital and certain laboratory examinations without increasing the annual payments. A relatively low scale of fees should be established, for example, $1.50 for prophylaxis and examination, $1.75 to $3.00 per filling (with a limit of $10 per year), $1.00 for an extraction, etc. The annual fee might be $8.00 per child per year. One might immediately ask how one could afford to do a prophylaxis at $1.75, extract two teeth and place $10.00 in restorations for $8.00 per year. The basis of the plan is the fact that the average individual develops fewer than two cavities per year. On this basis a surplus might be established to care for the rampant caries and for future needs in dentures or periodontal treatment. Another desirable feature of such a plan is that it makes apparent the value of prevention. If by caries control we can prevent many cavities so much more of the funds are preserved. If by early and frequent dental care we can preserve teeth so much less denture work will be required. But you say, "I do not care to place fillings at $1.75 per restoration." That is why the plan must be similar to the Blue Cross plan. The "Purple Cross" will pay $1.75 *of the cost of the restoration*. If the child of the president of our mythical American System Company goes to Dr. X in the Professional Building and the fee is $5.00 for the restoration daddy must pay the $3.25 difference while the janitor's child goes to Dr. Y whose total fee is $2.00 and he pays only $0.25. This allows free choice of dentist and type of service within the limits of the ability to pay for extras. It does not encourage lowering of standards. The dentist who did the work for the little

man in the poor section is not encouraged to lower his standards for he still has the type clientele he had before and he collects his fees more readily, largely from the insuring group. The dentist with the better practice still attracts the better class of patients and his patients get satisfaction because parts of their bills are paid by the insurance group. There is something about human nature that gives even the wealthy individual personal satisfaction in collecting on insurance although the actual cash received may be relatively trivial. This "Purple Cross Plan" is not suggested as the final answer to our needs but as a suggestion for criticism, consideration, improvement and, possibly, development.—Robinson, Hamilton B. G. Can Dental Health Care Be Provided For the Total Population? *J. Mo. S. D. A.* 23:165 (Sept.) 1943.

Calcium in Diet.—The protective diet which is fortified with calcium and Vitamin D has not controlled dental caries. Bone and teeth differ in their calcium metabolism, bone being subject to withdrawal in order to maintain the calcium needs of the body. This action depends upon the calcium phosphorus ratio of the ingested minerals, the hydrogen-ion concentration of the intestines, function or disfunction of the parathyroid and thyroid glands, vitamin D and phosphatase. The teeth retain their calcium even in severe calcium deficiency diseases. Pregnancy is not a direct cause of dental caries. A disturbance in calcium metabolism during tooth development may lead to hypoplasia, but not dental caries. The so-called optimal or protective diet is necessary for general health, but will not prevent dental caries or repair hypoplasia. The only dietary measure that directly affects dental caries is the elimination of refined carbohydrates in order to establish a zero acidopholis count, and then regulate the intake of carbohydrate so that the bacillus count does not exceed 150 colonies. Which seems to be an individual's refined carbohydrate tolerance.—Abrahanson, Allyn S. Diet—Its Effect on Bone Structure and Dental Caries. *J. Sou. Cal. S. D. A.* 10:12 (Oct.) 1943.

Diagnosis of Weaknesses of Amalgam.—Of the five inherent weaknesses of amalgam, only two are of diagnostic importance, i.e., color and weak edge strength. Obviously, where the color is objectionable to the esthetic sense of the patient it should not be used. The edge strength is not only a factor in cavity preparation but also contraindicates the use of amalgam in certain types of teeth. Amalgam should have bulk for strength not only at the margins but in the body of the filling at the junction of the proximal portion and the occlusal—the so-often-referred-to "neck" of the filling. For this reason, small bicuspids with long cusps and deep grooves are indiscriminately jeopardized when treated with amalgam. In this type of bicuspid it is necsary to cut the occlusal portion wider in a bucco-lingual direction to compensate for a shallow occlusal cavity. This procedure invariably weakens the buccal cusp in particular to a point where there is greater likelihood of fracture under masticatory stress. Hence, in young people with small bicuspids which have long cusps and deep grooves, amalgam, if it is to be used correctly, is not indicated.

The position of the occlusal margins is governed by the strength of the bite, the occlusion and in many instances the extent of the decay. Teeth in normal occlusion interdigitate like a group of gears in mesh. This in heavy bites is particularly hard on marginal ridges of amalgam restorations. The spot where the opposing tooth strikes should be noted and, if possible, the margins placed to avoid this contact.

In general, therefore, amalgam may be used as a filling material wherever a sufficient bulk can be obtained in the body and margins of the restoration and where it is not esthetically objectionable.—Thom, L. W. Fundamentals of an Amalgam Restoration. *Penn. S. D. J.* 11:9 (Oct.) 1943.

Metallic Stomatitides.—As opposed to the purely infectious forms of gingivostomatitis are those produced by certain metals, whether administered for therapeutic purposes, absorbed in the course of some hazardous occupation, or by accident. *Mercury* presents a good illustration. A peculiar metallic taste is first noted. Zinsser described mercurial stomatitis as follows: "The typical stomatitis with its diffuse redness and swelling of the mucous membrane, the profuse salivation, the ulcerations covered with pus upon the gums, the swelling of the tongue, the deep often sloughing ulcers made by indentations of the teeth upon the edges of the tongue and the mucous membrane of the cheeks, together with the abominable fetor, is not easily forgotten." *Lead* and *bismuth* present characteristic "lines" in the mouth which often betray their presence in the body. These black or bluish-black deposits of lead or bismuth sulphide are seen at the gingival margins of the teeth and with a hand lens give a stippled appearance. Characteristically, the line is not seen in edentulous mouth and is extremely rare in the presence of sound teeth and healthy gums. *Silver* salts, especially silver nitrate, may produce a bluish discoloration of the skin and mucous membranes called argyria. Local argyria may be produced by the application of silver nitrate to the teeth for prolonged periods.—Hertz, Julius J. and Silver, Aaron. Oral Manifestations of Local and Systemic Disease. *D. Outlook* 15:336 (Sept.) 1943.

OBITUARY

FRED E. REYNOLDS
1867-1943

Dr. Fred E. Reynolds, who had practiced dentistry in Chicago for fifty years, died at his home on December 17. He was born in Grand Haven, Michigan and was seventy-six years old at the time of his death.

Dr. Reynolds was a graduate of the Chicago College of Dental Surgery, School of Dentistry, Loyola University and became a member of the Illinois State Dental Society in 1905. He was a life member of the society.

Besides his participation in dental affairs, Dr. Reynolds had been active in Masonic circles for many years. He is survived by his widow, Mary, and three daughters, Mrs. Lillian Sedgwick, Mrs. Marian Bradfish and Dorothy. Funeral services were held on December 20.

C. B. POWELL
1858-1943

Dr. C. B. Powell, of Jacksonville, Illinois passed away September 28, 1943. He had practiced dentistry there for more than fifty years. Due to his remarkable health and his keen interest in the profession he loved, his eighty-five years neither burdened nor hindered him. He was in his office until one week before his death, practicing with his accustomed skill and accuracy.

As a child, he helped his dentist-father, first in the laboratory and later at the chair. He often said that he had followed the development of dentistry from the time it was a haphazard trade to its present high standard as a profession.

After a period of serving as an assistant in offices in San Francisco, Cincinnati and Kansas City, he took the Illinois State Board examination in 1891 and having thus qualified to practice in this state he opened his office in Jacksonville in 1892. When he came into the community, he had only the skill which lay in his hands, and his deep conviction that the Golden Rule was the single measurement for all his professional activity. During his long life and his splendid career this conviction never wavered.

During his first years in Jacksonville, he spent many friendly hours with Dr. G. V. Black and enjoyed the privilege of helping him with many experiments. He always regarded this relationship as one of great value.

In turn he helped and encouraged the newcomers, who established their offices in Jacksonville. He never regarded them as competitors, but as fellow workers. He had, too, a strict regard for the ethics of his profession and never once did he violate his understanding of its rigid demands.

He became a member of the Illinois State Dental Society in 1894 and was a faithful and active member until his death. He gave numerous clinics and he followed with intelligent interest the development of the society's usefulness.

R. C. RICHARDSON
1874-1943

Dr. R. C. Richardson, of Mt. Vernon, died of a heart attack after an illness of two weeks on November 23. He was born on August 9, 1874 near Ramsey, Illinois, the son of Martin and Artemissa Richardson. He attended the Louisville College of Dentistry, Louisville, Kentucky and was graduated from the University of Cincinnati, College of Dentistry in 1901. He began his practice in Mt. Vernon in 1904 and had practiced there since that time.

Dr. Richardson became a member of the Illinois State Dental Society through the Southern Illinois component in 1941.

He took a great interest in local affairs and was an ardent sportsman and hunter. He was captain and pitcher of the Doctor's baseball team and an active member of the Illinois Fox Hunters Association. He owned many hunting and show dogs, fancy chickens, harness and saddle horses, and in recent years had served as a judge of saddle horses at local horse shows.

He was a member of the Knights of Pythias, the Modern Woodmen of America and the American Dental Association.

Dr. Richardson is survived by his widow, Nellie, to whom he was married in 1907, a son, Lt. Frank M. Richardson, who is on duty with the navy in the Southwest Pacific, and a daughter, Mrs. Don Turner, of Lake Forest, Illinois.

Funeral services were held on November 25 with burial in Oakwood cemetery.

PETER W. THORELIUS
1866-1943

Dr. Peter W. Thorelius, retired Chicago dentist, died at the Svithiod Home, Excelsior, Minnesota on December 1 at the age of seventy-seven. He was graduated from the Chicago College of Dental Surgery, School of Dentistry, Loyola University in 1891 and had practiced in Chicago for forty-six years when he retired six years ago.

Dr. Thorelius became a member of the Illinois State Dental Society through the Chicago component in 1905 and was a member until 1913. He was a member again from 1925 to 1932 and from 1934 to 1937 inclusive. In 1938 ill health forced him out of practice and he had not been a member since that date.

He is survived by four sons and three daughters. Funeral services were held on December 4 in Chicago.

WILLIAM M. EVANS
1868-1943

Dr. William M. Evans, life member of the Illinois State Dental Society, died in the Oak Park hospital, Oak Park, Illinois on December 29 at the age of seventy-five. He was born in Chicago in 1868 and received his preliminary education in the city schools. He was graduated from the former United States Dental College in 1892 and became a member of the state society through the Chicago component in 1910. He had practiced in Oak Park for forty years.

Dr. Evans is survived by his widow, Leonora K., a daughter, Dorothy L., two brothers, Joseph K. and Byron B. and a sister, Mrs. Alice Crooker, all of Chicago. Funeral services were held in the Grace Episcopal church in Oak Park on December 31.

JOHN A. CRAVER
1865-1943

Dr. John A. Craver, a former member of the Illinois State Dental Society, died at his home near McHenry, Illinois on December 20. Dr. Craver attended Valparaiso University in Valparaiso, Indiana and was graduated from the Chicago College of Dental Surgery, School of Dentistry, Loyola University in 1902.

He became a member of the state society in 1905 through the Chicago component and was a member until 1919. He retired from practice in 1926. He is survived by his widow, Grace and a brother and a sister. Funeral services were held on December 22 and burial was in Valparaiso.

EDWIN BURKE
1859-1943

Dr. Edwin Burke, who retired in 1942 after practicing in the Woodlawn district of Chicago for more than fifty years, died at his home in Chicago on December 22. He was eighty-four years old at the time of his death. Dr. Burke was graduated from the former United States Dental College in 1891 and was a member of the Illinois State Dental Society from 1905 to 1911 inclusive.

He was chairman of the board of Olivet college, Bourbonnais, Illinois. Surviving are two daughters, Cora and Ruth. Funeral services were held on December 24 in the Church of the Nazarene, Chicago.

COMPONENT SOCIETIES

FOX RIVER VALLEY

Dr. Howard Miller, of Chicago, spoke on "Oral Surgery" at the meeting of the Fox River Dental Society on December 15 at the Baker hotel, St. Charles. Dinner was served prior to the meeting. Dr. Miller conducted a clinic following his lecture. The next meeting of the society will be held on January 19 at the Baker hotel.—*George B. Atchison, component editor.*

MC LEAN

The McLean County Dental Society met on December 6 in Bloomington. Dr. J. R. Carlton, of Chicago, was the clinician for the evening. His lecture on the McGrane procedure for full denture technic was illustrated by the use of motion pictures. Dr. Carlton's essay was well received and much interest was displayed by the members.

A. G. Orendorff, of Bloomington, was elected secretary-treasurer to complete the unexpired term of Carl L. Green, of Bloomington, who expects to leave for service with the navy dental corps.

R. N. Eagleton, of Pontiac, was elected to membership in the society.—*T. A. Rost, component editor.*

SOUTHERN ILLINOIS

The Study Club meeting of the Southern Illinois Dental Society was held in Carbondale on December 8. Dr. Robert G. Kesel, professor of dental pathology at the University of Illinois, College of Dentistry, lectured on "Root Canal Therapy and the Eitology of Dental Caries."

C. E. Boyles, of DuQuoin, conducted a clinic on the Meyers technic for balancing dentures. W. I. Lewis, M.D., of Herrin, discussed at length the proposed new legislation dealing with medicine and dentistry. W. A. McKee, of Benton, talked on "Law Enforcement of Dental Laws." H. A. Moreland, of Cairo, discussed the Procurement and Assignment Service.

There were about thirty-five members present for the session. The next meeting will be held sometime in January.—*J. L. Pickard, secretary.*

FOOD AND THE WAR

(Continued from page 14)

make them eat it. Edward J. Ryan in a timely discussion about a year ago in the *Dental Digest* entitled "Qualitative Starvation" points out that people, particularly children and young individuals, are not interested in health talks because they have never experienced ill health. They look upon vitamins as medicine, something to be avoided. They are bored with discussion of calories and food values. Some way of vitally interesting them in proper nutrition must be established. He suggests, and I believe with sound logic, that a desire for optimal nutrition must be created and that a more effective way of doing it may be by pointing out to the individuals the usefulness of diet in securing beauty, social acclaim and athletic fitness.

Not only is good nutrition required for sound teeth but also sound teeth are necessary to secure an optimal nutrition. Dentists are well aware that the best of artificial substitutes cannot masticate food as thoroughly as natural healthy teeth. Therefore, if the best food has to offer in the way of nourishment is to be obtained from it, its thorough mastication by natural teeth is necessary. We believe that information to the public regarding good health should call attention to this fact and not only should dentists discuss it, but more appropriately it should be emphasized by governmental and other health agencies which disseminate health information.—*808 South Wood Street, Chicago.*

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Champaign-Danville	G. W. Akerly *Milford*	Bruce Martin *Danville*	4th Thursday of March and October.
Chicago	Leo W. Kremer *Chicago*	Harry Hartley *Chicago*	3rd Tuesday of each month except June, July and August.
Decatur	Paul Berryhill *Decatur*	W. Winter *Decatur*	2nd Tuesday of each month except May, June, July and August.
Eastern Illinois	John A. Phillips *Arcola*	J. A. Wren *Paris*	April and September.
Fox River	W. B. Downs *Aurora*	G. B. Atchison *Elgin*	3rd Wednesday in each month.
T. L. Gilmer	L. W. Ridpath *Warsaw*	K. W. Ringland *Quincy*	1st Tuesday and Wednesday in November.
Kankakee	W. J. Cunningham *Kankakee*	L. W. Creek *Kankakee*	3rd Thursday in March and September.
Knox	C. A. Treece *Galesburg*	Leo Burcky *Galva*	1st Thursday in each month except June, July and August.
LaSalle	W. P. Daugherty *Ottawa*	V. J. Piscitelli *LaSalle*	April and October.
McLean	E. L. Wilmoth *Pontiac*	Carl L. Green *Bloomington*	1st Monday in each month, October to April inclusive.
Madison	T. P. Francis *Collinsville*	W. H. Schroeder *Edwardsville*	February and October.
Northwest	B. S. Tyler *Freeport*	Lou H. Matter *Freeport*	2nd Monday of each month, September to May.
Peoria	A. L. McDonough *Peoria*	A. Alexander *Peoria*	1st Monday of each month except July, August and September.
Rock Island	I. I. Morton *Rock Island*	J. H. Nichols *Rock Island*	3rd Tuesday in each month, September to May inclusive.
St. Clair	Carl Glenn *Marissa*	R. A. Hundley *East St. Louis*	3rd Thursday in January.
Southern Illinois	C. E. Boyles *DuQuoin*	J. L. Pickard *Benton*	Semi-annual, March and October.
Wabash River	G. I. Lewis *Dieterich*	H. W. Kinney *Robinson*	Annual, Second Wednesday in October.
Warren	H. W. Stott *Monmouth*	E. B. Knights *Monmouth*	3rd Monday of each month except June, July and August.
Whiteside-Lee	C. P. Danreiter *Sterling*	H. Lyle Acton *Sterling*	Every two months; around the 15th.
Will-Grundy	Joseph W. Zelko *Joliet*	David N. Bradley *Joliet*	2nd Thursday in January, March, May, September, November and December.
Winnebago	Fred L. Mead *Rockford*	A. H. Veline *Rockford*	2nd Wednesday in each month except June, July, August and September.

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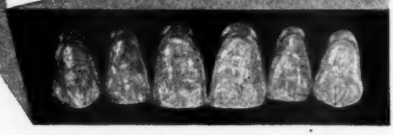

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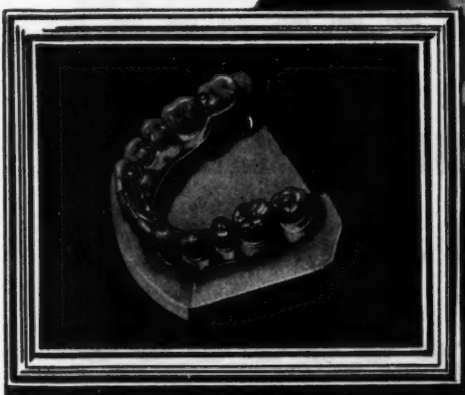

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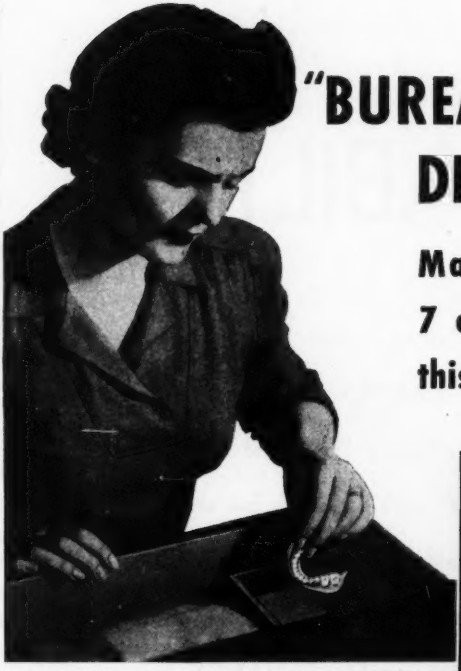

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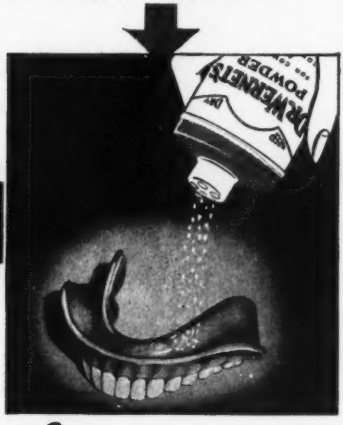

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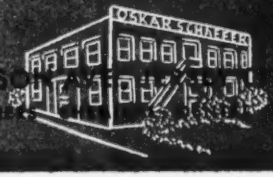

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None	.102" x .102"	(Oval)	304
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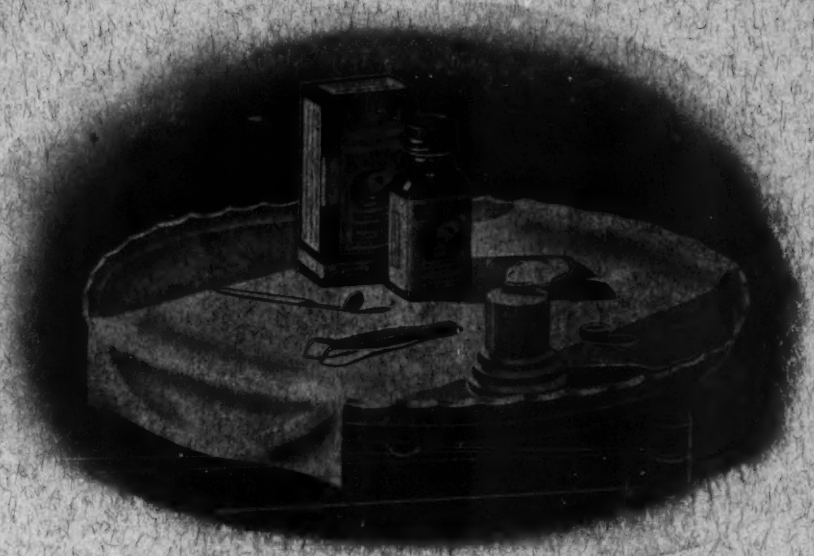

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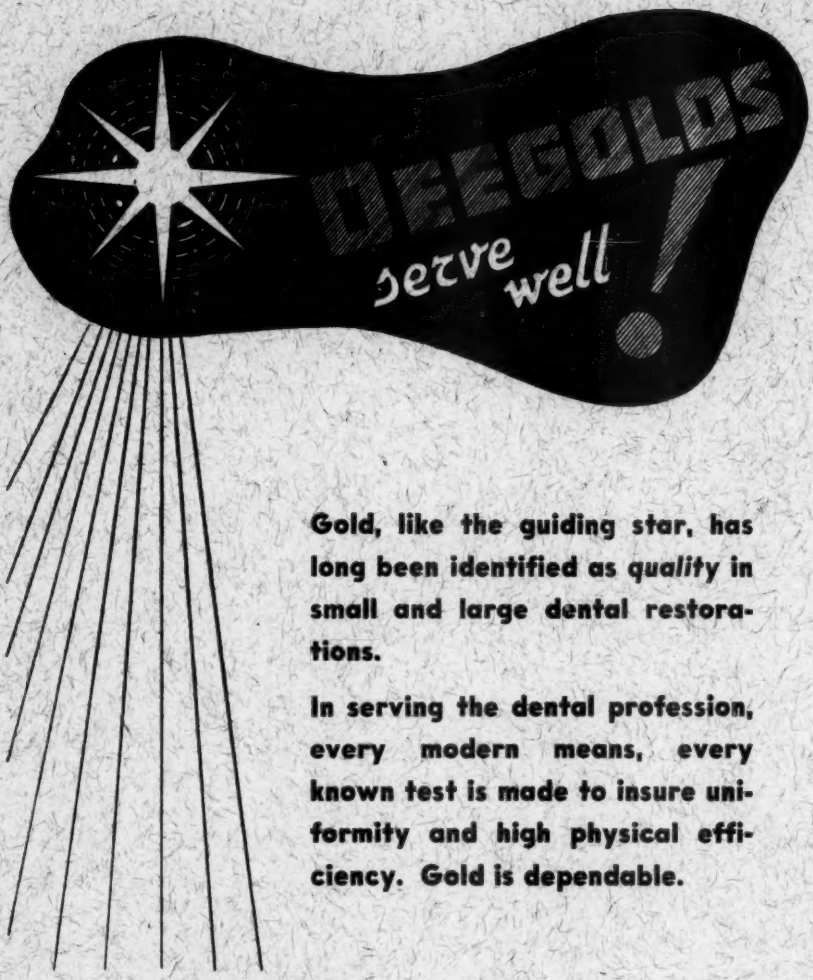

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